



Delta Alliance: a review beyond Knowledge for Climate

Review document for the project 'Launching Delta Alliance'



Delta Alliance: a review beyond Knowledge for Climate

Review document for the project 'Launching Delta Alliance'

Delta Alliance
Wageningen, September 2013



Delta Alliance

www.delta-allinace.org

Contents

1	Introduction	5
1.1	Purpose of this document	5
1.2	Reading guide	5
2	Strategic development of Delta Alliance	7
2.1	Introduction	7
2.2	From International Hotspots to Delta Alliance	7
2.3	Vision: why a specific focus on deltas is needed	7
2.4	Phase 1 (1 April – 1 October 2009)	8
2.5	Phase 2 (1 November 2009 – 31 December 2010)	9
2.6	Phase 3 (1 January 2011 – 31 December 2013)	9
2.7	Reflections on the strategy development of Delta Alliance	10
3	Organisational Development	11
3.1	Introduction	11
3.2	Objectives	11
3.3	Strategy	11
3.4	Activities and results	11
3.4.1	Governance structure	11
3.4.2	Network development	13
3.5	Reflection	15
3.5.1	Network development	15
3.5.2	Composition of the Dutch Wing	16
3.5.3	Project execution	16
4	Partnering	17
4.1	Objectives	17
4.2	Strategy	17
4.3	Activities and results	17
4.3.1	Partnering of the Dutch Wing with Dutch Ministries	17
4.3.2	Cooperation with Global Water Partnership (GWP)	17
4.3.3	Trans-boundary Water Assessment Programme	18
4.4	Reflection	18
5	Knowledge sharing	19
5.1	Introduction	19
5.2	Objectives	19
5.3	Strategy	19
5.4	Activities and results	19
5.4.1	Preparatory workshops and Delta Alliance Launch Event	19
5.4.2	International conferences (keynotes, presentations, delta-sessions)	20
5.4.3	Capacity building	21
5.4.4	Publications	22
5.4.5	Newsletters	22
5.4.6	Website (www.delta-alliance.org)	22
5.5	Reflection	22

6	Knowledge generating activities	23
6.1	Objectives	23
6.2	Strategy	23
6.3	Activities	23
6.3.1	Identification missions during phase 3	23
6.3.2	Knowledge gaps resulting from the Comparative Assessment	23
6.4	Results	24
6.4.1	A set of brief project proposals	24
6.4.2	Funded and realised research projects or initiatives	24
6.4.3	Delta Alliance reports	24
6.5	Short description and results of most relevant projects and initiatives	25
6.5.1	Comparative assessment of the vulnerability and resilience of 10 deltas	25
6.5.2	Delta Alliance Young Professionals Award	25
6.5.3	GWP-Delta Alliance project on Enabling Delta Life	25
6.5.4	Assessments for Investments	26
6.5.5	Jakarta Climate Change Adaptation Tools	26
6.5.6	Deltas Initiative: Developing a Decadal Science Plan for Deltas	26
6.5.7	TWAP - delta assessment	27
6.5.8	Water Resources Assessments Mekong Delta	27
6.6	Reflection	27
7	Outlook	29
7.1	Where do we stand?	29
7.2	Strategy	29
7.3	Organisation and network	29
7.3.1	Organisation	29
7.3.2	The network	29
7.4	Enforcement of the Dutch Wing	30
7.5	Further development of the international activities and profile	30
7.6	Strategy for funding	31
Annex 1	Delta Alliance Resilience Strategy	33
Annex 2	Composition of the Delta Alliance Wings	35
Annex 3	Membership agreement between Wings and Delta Alliance International	41
Annex 4	Overview of partnering activities	45
Annex 5	Overview of publications	47
Annex 6	List of developed project proposals	51

1 Introduction

1.1 Purpose of this document

This document is written as input for the review of Delta Alliance. Until the end of 2013 Delta Alliance operates as a project funded by Knowledge for Climate (KfC). In 2014 Delta Alliance has to stand on its own feet, without structural funding from KfC. The review will be an expert meeting with representatives of knowledge institutes, private sector and government. The results of the review will be used to further shape Delta Alliance during the last few months of 2013.

1.2 Reading guide

Chapter 2 describes the development of Delta Alliance in a chronological manner with emphasis on the development of its mission and strategy. In this chapter the general strategic developments that took place during different phases of Delta Alliance are briefly described. This provides the reader with a general overview of the history of Delta Alliance.

Over time Delta Alliance developed four clusters of activities: (i) organisation and network development, (ii) partnering and services, (iii) knowledge exchange and (iv) knowledge generation. Chapter 3, 4, 5 and 6 deal with these clusters respectively. These four chapters have a similar set-up, giving the objectives for the cluster, the strategy followed and the activities and results. At the end of each of these chapters a short reflection and conclusion is given concerning the progress of the cluster. As these activities have a continuous character the results are not separated by phase but are given aggregated. For detailed results per phase the reader is referred to the final reports of phase 1 and 2 (and phase 3, in a later stage).

Chapter 7 gives an outlook for Delta Alliance for the years to come, in terms of strategy development, positioning, organisation and network development and funding strategy.

2 Strategic development of Delta Alliance

2.1 Introduction

This chapter describes the development of Delta Alliance in a chronological manner with emphasis on the development of its mission and strategy. In this chapter the general strategic developments that took place during different phases of Delta Alliance are briefly described. This provides the reader with a general overview of the history of Delta Alliance.

2.2 From International Hotspots to Delta Alliance

Delta Alliance is a knowledge driven network initiated by the Knowledge for Climate program. In fact the initiative to explore the possibilities for the creation of a Delta Alliance was preceded by an exploratory project on so-called 'International Hotspots'. The applied approach for the identification and definition of the international hotspots has been very similar to the one applied for the 'National Hotspots' of Knowledge for Climate program (see <http://knowledgeforclimate.climate research netherlands.nl/programme/hotspots-and-themes>). International hotspots were defined as regions where significant climate change adaptation takes place or will have to take place in which knowledge and expertise of the Dutch knowledge institutes and or private sector companies could play an important role. At the end of the project it was concluded that instead of building bilateral relations with a number of international hotspots, it would be preferable to create a platform between international hotspots with a specific focus on deltas with their challenges to address, and so the idea of the International Delta Alliance was born. Based on the hotspot project results it was proposed for the first phase of Delta Alliance to start with the deltas of the Ciliwung (Indonesia), Mekong (Vietnam) and San Francisco Bay (California, US) in combination with the Rhine Delta and in optimal connection with the research program Knowledge for Climate.

2.3 Vision: why a specific focus on deltas is needed

Deltas are rich in environmental resources and have strong economic potentials. Fertile soils and fresh water supplies have made deltas successful and important centres for agriculture. The strategic location between sea and inland, make deltas hubs of innovation, industrial development, and human settlement – deltas are home to the fastest growing cities in the world. Deltas are also great hubs of biodiversity, acting as critical locations in the development and life-cycles of many species.

While deltas share many benefits, they also share many problems - impacts of climate change and the problems associated with water management, ecosystems, urbanization, food production and agriculture, infrastructure and governance all culminate in delta areas. Many deltas already suffer greatly from congestion, depleted fresh water supply, land subsidence, erosion, saline intrusion, water pollution, increasing temperatures and flooding. In addition, their natural wealth and dense populations make deltas particularly vulnerable to natural catastrophes, which inflict extensive human, ecological and economic harm.

These problems will be further aggravated by the triple threat of climate change, population growth, and economic growth. Climate change threatens deltas with impacts including sea level rise, saline intrusion into groundwater, storm surges, and an altered influx of freshwater from upstream that may result in flooding and/or freshwater scarcity. Population and economic growth further increase the stress on natural resources and the capacity of cities.

The problems facing river deltas are already having major impacts, and their threat is quickly increasing. Climate change and impact scenarios are steadily being adjusted towards the high end of

the spectrum, meanwhile the natural resiliency of river deltas continues to be depleted, rapidly escalating their vulnerability. The risk of catastrophic events is steadily growing. There is an urgent need for river delta adaptation.

For the myriad of problems facing deltas to be adequately addressed they need more attention from citizens, scientists, and politicians, and for efforts both within and across deltas to be coordinated to maximize their effectiveness. Furthermore, solutions must be sustainable to ensure that responses to today's threats do not jeopardize the man-made or natural environment in the future.

While every delta is unique and each community will address local situations and challenges in its own way, the sharing of knowledge and experience and the joint development of solutions can accelerate and improve the identification and implementation of suitable solutions. This will help deltas adapt to growing pressures before catastrophic events occur.

The Aquaterra Forum on Delta & Coastal Development held in Amsterdam in February 2009 concluded that, while there are viable solutions to the problems facing deltas now and in the future, to realize them requires:

- major advances in relevant science and technology;
- knowledge and experience developed and shared across deltas;
- delta-wide governance; and
- greater recognition at the international level of the vulnerability of deltas.

2.4 Phase 1 (1 April – 1 October 2009)

Budget: total budget €145.000, with €145.000 contribution by KfC.

Objective: to establish an international network that will coordinate and stimulate efforts to develop, share, and implement knowledge and ideas for improving the resilience of river deltas, as well as to increase international recognition of deltas as specifically vulnerable locations.

Activities

Preparatory activities with four selected deltas: the Rhine, Ciliwung, Mekong and San Francisco. Bay deltas in order to formulate initial projects within the network.

Representatives of the four deltas were consulted in different settings.

Achievements

1. Delta Alliance is working with Wings. A Wing is a sub-network of Delta Alliance, consisting of parties within a specific country. In this phase Wing coordinators in the four mentioned deltas were appointed.
2. Definition of a draft strategy, with the following important ingredients:
 - Delta Alliance will focus on integration of knowledge across disciplines, sectors and regions;
 - Delta Alliance will focus on a limited set of critical problems in deltas, through providing information, and supporting integrating activities;
 - creating a network of all parties of the golden triangle, including NGO's. So governments, NGO's businesses and knowledge institutes can become member of Delta Alliance;
 - Delta Alliance will provide a platform for cooperation between members
 - Delta Alliance itself will not carry out projects;
3. Identification of critical success factors for Delta Alliance, which are: strong and strategically placed local coordinators required; embedding of Delta Alliance in other international processes necessary; development of a clear niche (science-policy interface was mentioned as a clear niche); and partnerships with international delta-related initiatives, such as World Estuary Alliance and DRAGON.

Conclusion

At the end of phase 1 the general response to the launching of a Delta Alliance platform was positive. Most parties agreed that a Delta Alliance would be a valuable asset for many delta regions and several

participants expressed their willingness to participate in the development of the initiative. The four locations all showed keen interest in contributing to the creation of Delta Alliance.

2.5 Phase 2 (1 November 2009 – 31 December 2010)

Budget: €1.936.583, with €788.851 contribution by KfC.

Objective

The objective of phase 1 was further specified: 'to create the foundation and framework for a sustainable international network that will support more effective (improved responses) and efficient (faster adaptation, building upon knowledge from other deltas) responses to increasing pressures in river deltas worldwide'.

Activities

- developing the Delta Alliance organization
- further development of the Delta Alliance strategy
- initiating network activities
- initiating and carrying out research projects that link delta regions and address critical delta issues.

Results

- The strategic elements of phase 1 were further developed into a Strategic Framework with (amongst others) a mission statement, the Resilience Strategy and the Delta Alliance Declaration to be signed by all members. This entire framework can be downloaded from the Delta Alliance website; the resilience strategy is given in Annex 1.
- Organizational structure with an international governing board, a director, an international secretariat, Wings, and an advisory committee (see chapter 3).
- Communication between partners and stakeholders was formalised through a website, newsletter, etc. (see chapter 5).
- Delta Alliance was formally launched at the International Conference 'Delta's in Times of Change', September 30, 2010, in Rotterdam, after a pre-launch workshop with interested international partners the day before.
- Delta Alliance Declaration was signed by 7 Wing members (Rhine, Ciliwung, Mekong, San Francisco, Yellow river, Nile, Ganges-Bhramaputra-Megha).
- Various projects were done under the umbrella of Delta Alliance (see chapter 6).

Conclusion

At the end of phase 2 Delta Alliance had a balanced strategy, and in general terms it was felt that this was addressing a clear niche for Delta Alliance. The network had grown to 7 Wing members and 3 candidate members (not formalised), with linkages to other international initiatives (World Estuary Alliance, Connecting Delta Cities, DRAGON), and good exposure in the international science-policy arena. It was decided that Delta Alliance would further develop into an independent foundation.

2.6 Phase 3 (1 January 2011 – 31 December 2013)

Budget: max €800.000 contribution by KfC, provided a co-funding of min €610.000

General

The third phase of Delta Alliance started in January 2011 and will end in December 2013. The start-up of phase 3 was retarded considerably, because the management of Delta Alliance and the management of KfC had different views on the future of Delta Alliance. It was only in January 2013 that a final agreement was reached on the implementation of the 3rd phase. In this agreement a work plan for 2013 was agreed upon. Activities carried out in 2011 could be brought under the contract retroactively. Activities carried out in 2012 have been financed by two of the participating institutes (Alterra and Deltares).

Objectives

- Further development of the Delta Alliance Organisational development towards independency by the end of phase 3
- Further development of knowledge sharing activities and knowledge generation
- Partnering and services

Activities

The work plan for 2013 consists of 7 work packages.

1. Development of a comprehensive framework for adaptation in deltas.
2. Knowledge for Impact Activity 1 (Bangladesh).
3. Knowledge for Impact Activity 2 (Mozambique).
4. Knowledge for Impact Activity 3 (California).
5. Partnering en services.
6. Profiling and fund raising for spin-offs.
7. Network & Foundation.

WP 1 – 4 are all knowledge generation and sharing activities (objective 2). WP 5 focusses on partnering and services (objective 3), WP 6 and 7 on organisational development (objective 1).

Results achieved until September 1, 2013

- The Foundation Delta Alliance was further developed in order to facilitate contractual and financial transactions. Further, the International Governing Board adopted the Memorandum of Agreement between the Foundation and the Wings, stating mutual tasks and responsibilities (see chapter 3). The relationship between the Foundation and the Wings can now easily be formalised.
- Because only few Wings were pro-actively developing activities within the context of Delta Alliance, it was clear that, at least in the first years of Delta Alliance's independency, the Dutch Wing will be the motor of Delta Alliance. To be a motor for such a network, the Dutch Wing needs a clear focus and structural funding. Therefore we worked on formalising partnerships and structural services for these partners (see chapter 4).
- A set of concrete projects and activities on the science – policy interface (so called 'knowledge for impact' projects) were started in Bangladesh, Mozambique and California, funded by the KfC Budget for Delta Alliance phase 3. The results of these projects will be reported in a later stage.
- Delta Alliance has also been able to attract funding for knowledge projects from other donors (see chapter 6).

2.7 Reflections on the strategy development of Delta Alliance

The vision, mission and objectives of Delta Alliance have remained more or less constant over time. The objective of Delta Alliance is to be a sustainable international network that supports effective (improved responses) and efficient (faster adaptation, building upon knowledge from other deltas) responses to increasing pressures in river deltas worldwide. The strategy how to reach this objective developed over time. By the end of phase 2 there was a clear strategic framework in place. In phase 3 Delta Alliance is focussing on *strengthening the boundary conditions* (organisational development and partnering and services) and on *implementation* of the strategy by knowledge generating activities and knowledge transfer activities.

3 Organisational Development

3.1 Introduction

This chapter provides the objectives and the activities in the field of organisational development and overall result Delta Alliance achieved so far. The organisational development can be divided into:

- Development of governance structure of the overall organisation and
- Network development.

3.2 Objectives

The objectives of the organisational development of Delta Alliance evolved over time:

- from the rather exploratory objective of phase 1: *to lay the foundation for Delta Alliance in four deltas (the Rhine, Ciliwung, Mekong and San Francisco Bay Deltas,*
- via the more explicit objective of phase 2: *to launch the network and to create and operate an effective organization,*
- to the ultimate objective of phase 3: *to develop Delta Alliance into an independent network organization.*

3.3 Strategy

The strategy that has been applied for the organisational development has followed the evolution of the objectives:

- The relatively short exploratory phase 1 was executed as a kind of identification project by Alterra Wageningen UR with the aim to assess the interest of the creation of the Delta Alliance network through organising:
 - Scoping workshops in respectively Vietnam, Indonesia and California and
 - A number of meetings with interested organisations in the Netherlands.
- The launching phase 2 was also executed as a project by Alterra, this time with Deltares and Arcadis as subcontractors, with the aim:
 - To officially launch the Delta Alliance network;
 - To build an effective organisational structure that would facilitate and support the network activities, and
 - To expand and organise the network of participating deltas.
- During the final phase 3, as far as KfC funding is concerned, the necessary steps are and will be undertaken to develop Delta Alliance into an independent network organisation through:
 - Establishment of an officially registered legal entity, a Foundation, with a clear organisational set up;
 - Setting up of the administrative organisation that permits to conclude directly contracts with donor organisations and partners;
 - Strengthening of the positioning of Delta Alliance in the international arena through partnering with international organisations and networks, and
 - Extension, strengthening and formalisation of the existing international network.

3.4 Activities and results

3.4.1 Governance structure

Phase 1 (1 April 2009 – 1 October 2009)

On request of the Knowledge for Climate (KfC) program Alterra Wageningen UR has executed this phase of Delta Alliance as a project in which the contours of Delta Alliance have been sketched

through a number of scoping workshops in Vietnam, Indonesia and California and a number of consultation meetings with potential Dutch partners. During all the workshops and meetings the general response to the launching of a Delta Alliance platform was positive. Most parties agreed that Delta Alliance would be a valuable asset for many regions and several participants expressed their full collaboration in the development of the initiative. It was also recognized that the governance structure and activities of Delta Alliance should reflect that it is an international network and not a Dutch initiative if the network is to succeed in attracting non-Dutch funding beyond the period of FfC funding. A preliminary business plan was prepared at the end of phase 1.

Phase 2 (1 November 2009 – 31 December 2010)

The organizational structure of Delta Alliance in phase 2 consisted of an *Advisory Board* and International Secretariat. The *Advisory Board* consisted of the Chair (Kees Slingerland), a representative of WWF (on behalf of the World Estuary Alliance) and the coordinators of the 4 Wings. The Advisory Board met regularly in phase 2 to discuss the development of Delta Alliance and to share experiences. In phase two an *International Delta Alliance Secretariat* was formed consisting of a program manager, a launch officer, and a launch secretary. The secretariat was based in Wageningen, The Netherlands, and was responsible for the development of the Delta Alliance organization, communication with the various Wings, preparation of the Strategic Framework, outreach during conferences and seminars, contacts with new potential Wings, maintenance of the Delta Alliance website and regular provision of the newsletter.

During the Advisory Board meeting on 1 October 2010 it was decided that steps should be taken to legally establish a foundation with the name 'Delta Alliance International'. Subsequently the structure of the organization was developed for further implementation in phase 3.

Phase 3 (1 January 2011 – 31 December 2013)

At the start of phase 3 the organizational structure of Delta Alliance has got ample attention, because:

- The continuation of Delta Alliance after the closure of the KfC program in 2014 has to be assured;
- Delta Alliance has to attract external funds to realize its ambitions, and
- Delta Alliance has to be able to sign contracts with third parties: funding organisations and partners.

In July 2011 the Foundation Delta Alliance International was officially established by the Board of the Knowledge for Climate program as a non-profit organization with the following bodies:

- International Governing Board.* According to the statutes this Board consists of three to nine natural persons and is charged with managing the Foundation. At the establishment of the following members were nominated: Mrs Tineke Huizinga (former Dutch minister of the Environment), Mr Lifeng Li (director Fresh Water, WWF International), Prof dr András Szöllösi-Nagy (rector UNESCO-IHE).
- Director.* The Director manages the secretariat, coordinates the interaction between the International Governing Board and the Advisory Committee and is responsible for the execution of the activities as described in the Yearly Plan of Operation and the activities instructed by the Executive Board.
- Advisory Committee.* The Advisory Committee consists of the Wing Coordinators and representatives of organizations that contribute to achieving the objectives of the Foundation. Tasks of the Advisory Committee include formulating recommendations to the International Governing Board in the field of strategy, scientific tendencies and technologies in relation to deltas; reviewing and evaluating current projects in the field of scientific research and development; developing scientific policy plans and strategies; and giving solicited as well as unsolicited advice to the International Governing Board. If needed, the Advisory Committee shall be authorized to call in the assistance of external experts.
- International Secretariat.* The International Secretariat is amongst others responsible for supporting the International Governing Board and the Advisory Committee, carrying out administration and documentation tasks and organizing and taking part in international meetings, seminars and workshops.
- Wings.* A Wing is a network of knowledge driven organizations (universities, research institutes, ngo's, governmental organisations, private sector partners) in a specific country or area, that are

dealing with delta-related issues in a specific country or area. Each Wing has a Coordinating Agency and a Wing Coordinator who is responsible for the activities within the Wing network and the coordination with the International Secretariat. A Wing must be recognized as such and admitted to the Foundation by the Board.

A graphic overview of the organizational structure of Delta Alliance International is given in Figure 1.



Figure 1 Organizational structure of Delta Alliance International.

For each Wing it is advised to establish a foundation or another type of legal entity adapted to the local situation and rules.

3.4.2 Network development

Phase 1 (1 April 2009 – 1 October 2009)

During phase 1 scoping missions, including the organization of meetings, seminars, workshops and round tables have taken place to the three deltas outside the Netherlands. The objective of these scoping missions was to identify the interest in the establishment of a Delta Alliance, the identification of potential partners for the local networks (called Wings) and the identification and prioritization of the most important challenges for the concerned delta. In total more than 350 people participated in these events. Coordinators for the various Wings were identified and confirmed. Within the Netherlands meetings with individual parties have been organized. Each meeting yielded feedback, suggestions and possible partnership opportunities for building the network. The response during the missions and the meetings with the Dutch partners to the initial vision and the launching of the Delta Alliance was generally positive.

One of the conclusion of phase 1 was that more scoping is needed to succeed in building a long-term network that is sustained by partners internationally. In particular, it must be determined what problems/issues are most relevant in each location to achieve local buy-in to the network, and to facilitate concrete cooperation between the deltas. Just as important is to determine the mechanisms of cooperation that will be supported financially and conceptually in each location.

Phase 2 (1 November 2009 – 31 December 2010)

This scoping was done in phase 2, through scoping workshops and follow-up meetings in various Wings, missions to expand the network and (co)organization of various events and workshops by Delta Alliance representatives. At the start of phase 2, Delta Alliance started with 4 core delta regions or delta Wings (Indonesia, Vietnam, California and The Netherlands). These 4 Wings have built the network and organized various events to identify critical issues in their delta and to expand the network in their respective region. At the end of the 2nd phase 3 more delta members joined: Egypt, USA-Louisiana and China. Further, there were 3 candidate member deltas (Bangladesh, Brazil and Argentina) and several potential candidate members (Mozambique, Taiwan, other USA deltas, European deltas).

Network development under the Netherlands Wing consisted amongst others of organizing a scoping workshop in April 2010 and a kick-off meeting for the Dutch Wing on April 22, 2010, in Rotterdam, resulting in a position paper.

Phase3 (1 January 2011 – 31 December 2013)

During phase 3 the network continued to grow. It currently counts 11 Wings (Indonesia, Vietnam, Bangladesh, China, Argentina, Brazil, Egypt, Mozambique, USA-California, USA-Louisiana and the Netherlands). In the course of phase 2 and 3 some other 10 deltas have shown keen interest to join the Delta Alliance network, notably from Ghana, Taiwan, Senegal, Kenya, Ghana, Benin, Rumania, Myanmar, Italy, Spain, etc. (see Figure 2).

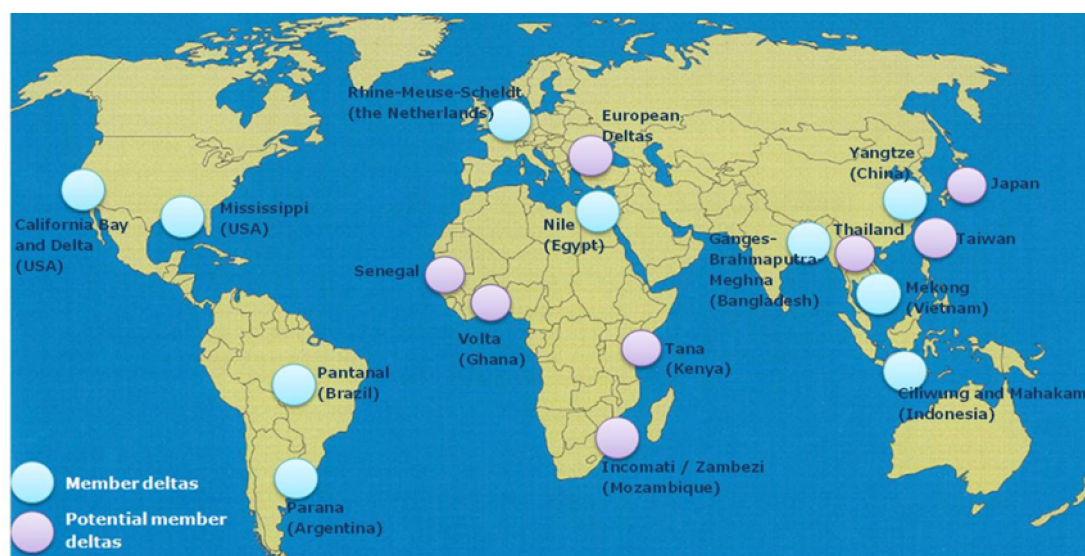


Figure 2 The Delta Alliance network.

Annex 2 gives a description of the organisations involved in each of the Wings.

However, the relation between the International Secretariat and the Wings was not always strong and clear and not all Wings were evenly active. At the same time new deltas continued to show interest. Therefore the International Governing Board in its meeting of June 2013 took the following decisions:

- The relation between the Wings and the International Secretariat need to be strengthened and formalized through a Memorandum of Agreement (MoA), clearly indicating the rights and obligations at both sides. The MoA (see Annex 3) can also help to strengthen the cooperation between the member organizations within the Wings
- Delta Alliance will become an open network organization. This means that each delta in which a number of organizations solicit membership can join the network on the conditions of the MoA.
- The MoA with each individual Wing can be dissolved by the Board in case the respective Wing doesn't respect the obligations of the MoA, for instance by not being active for some time.

Obligations of the Wings

The MoA stipulates that the Wing will contribute to the functioning, development and maintenance of the Delta Alliance International organization and network, through the following activities:

- Organise local activities with local Wing partners and stakeholders that contribute to the overall mission of Delta Alliance.
- Actively contribute to acquiring funded projects for the Wing partners, preferably in cooperation with partners from other Wings.
- Participate in at least 1 international conference per year, (co)organised by Delta Alliance.
- Participate in meetings of the Delta Alliance Advisory Committee.
- Actively contribute to knowledge dissemination in cooperation with the international secretariat, e.g. through the Delta Alliance website, brochures and other communication means.
- All activities will be carried out at own costs; Wings do not pay contribution to the International Secretariat.

What can the Wings expect from Delta Alliance International?

The MoA stipulates also the conditions and obligations of Delta Alliance International or in other words what the Wings can expect from the international network and organisation:

- Participation in a worldwide network that calls for special attention for deltas. Delta Alliance has the overall mission to improve the resilience of deltas and will draw the attention of amongst others policy makers and funding agencies to the high vulnerability of many very valuable deltas. At the same time the specific challenges of each of the participating deltas can also be brought under the attention of these agencies. Delta Alliance will also play an active role in international fora and networks that could contribute to its mission.
- Access to knowledge and experiences in other deltas. Delta Alliance International will actively stimulate the exchange and dissemination of knowledge related to delta issues through a website, Newsletters, social media, comparative studies and assessments, publications, data bases, workshops, conferences, etc. The Wings are also offered opportunities to participate actively in these media and activities.
- Use of the 'brand' Delta Alliance as a quality guarantee for the promotion and funding of projects and activities. For the use of the brand Delta Alliance close communication with the International secretariat is needed. Delta Alliance International will actively promote and safeguard the brand Delta Alliance.
- Fund raising and inter-delta cooperation. Delta Alliance International will actively promote and support inter-delta cooperation and assist in finding the necessary funding for these activities. Delta Alliance has already noticed that several funding and international cooperation agencies subscribe the advantages of inter-delta cooperation. For that purpose Delta Alliance International will develop good relations with such agencies and stimulate the creation of new inter-delta cooperation programs.
- Advisory Committee. The International Governing Board offers each Wing a seat in the Advisory Committee of Delta Alliance International.

In this phase the Dutch Wing had a second network meeting on October 5, 2012, resulting in a revised version of its position paper. The Netherlands Wing was launched during the International water week, 3 Nov 2012 in Amsterdam.

3.5 Reflection

3.5.1 Network development

The International Secretariat in combination with the Director have been active and both played a crucial role in the development of Delta Alliance. The International Governing Board has convened yearly since its establishment and clear decisions have been made by the Board. The linkages between the Wings and the international secretariat have been too weak and roles and responsibilities not

clear. As a result of that the Advisory Committee has convened only once. Actions have been taken to strengthen and clarify the position of the Wings

3.5.2 Composition of the Dutch Wing

The Wings are all populated by a mixture of knowledge institutes, consultancy firms, private sector, NGO's and public entities. Recently, and under pressure of recent developments in the Netherlands we believe it is strategic to populate the Dutch Wing with (predominantly) knowledge institutes. And this is motivated as follows. As a result of the Top Sector approach in the Netherlands representatives of government, private parties and knowledge institutes have made alliances. For delta issues these parties have gathered in the Network Delta Technology, the Kernteam Delta Technology and the TKI Delta Technology. Another network with triangle partners would not be of added value. Furthermore the private parties have recently organised themselves in the Taskforce Delta-technology, and therefore a Dutch knowledge network is of more added value and better fits with the pre-competitive role towards the Dutch Ministries. The Dutch Wing therefore has to maintain strong links with policy makers, private sector and civil society. International Wings are free to attract knowledge partners, public partners and / or private partners, depending on local needs.

3.5.3 Project execution

In the past Delta Alliance has taken different positions with respect to project execution. At the end of phase 1 it was clearly stated that Delta Alliance would not execute projects itself, whereas in phase 2 a specific objective was included to initiate and carry out research projects. However, during execution of phase 2 it became clear that Delta Alliance member institutes are not very eager to participate and invest in a foundation that may become their own competitor, and therefore the current position concerning project execution is that:

- Delta Alliance has the explicate purpose to generate projects for its members, as we believe that a network needs concrete activities in order to stay alive and dynamic. The partners will stay more active in the network if they see an added value through participation in concrete projects acquired through the Delta Alliance network.
- The International Secretariat will assist in the acquisition effort, through lobbying, donor connections and visibility, but the main acquisition efforts have to come from the network partners.
- The secretariat will not have a direct role in the execution of the projects.
- Acquired projects can be contracted in two modalities. First modality is contracting directly with the relevant members of Delta Alliance (and not with the Delta Alliance Foundation). When Delta Alliance has played a significant role in the acquisitions of the project an agreement will be made between the executing partners and the Foundation Delta Alliance on acknowledgments and publishing of results. In this modality Delta Alliance can also play a role in dissemination of the results. The second modality is contracting through the Delta Alliance Foundation itself, for instance on the request of the financier. In that case Delta Alliance will subcontract the activities to relevant Delta Alliance members. In both modalities the Foundation Delta Alliance itself will not execute projects.

4 Partnering

4.1 Objectives

The objectives of partnering are:

- to achieve synergy between activities by Delta Alliance and its partners;
- to avoid duplication of activities and;
- to attract funding for joint activities and /or for structural funding for the international secretariat.

4.2 Strategy

During scoping activities a number of relevant initiatives were identified (see also Annex 4). This was followed up during the second and third phase, when various activities were undertaken to partner with these initiatives and to improve the international positioning of Delta Alliance. In this chapter we are now further focusing on the most promising cooperation opportunities for the future.

4.3 Activities and results

4.3.1 Partnering of the Dutch Wing with Dutch Ministries

Because only few Wings were pro-actively developing activities within the context of Delta Alliance, it was clear that, at least in the first years of Delta Alliance's independency, the Dutch Wing will be the motor of Delta Alliance. To be a motor for such a network, the Dutch Wing needs a clear focus and structural funding. Therefore we work on formalising partnerships and structural services for partners. However, with the recent developments (economic crisis, budget cuts of the relevant Dutch ministries, the upcoming Top Sector approach focussing strongly on the export of Dutch knowledge and expertise and the stronger relation between aid and trade in Dutch international cooperation policies) it has become less likely that the Dutch ministries would opt for financing international activities of Dutch knowledge institute without clear added value for the Dutch (water)sector. Therefore Delta Alliance is currently in discussion with the Dutch Ministry of Infrastructure and the Environment (I&M) to become a knowledge portal for both I&M and the Ministry of Foreign Affairs/DGIS. We decided (in discussion with I&M) to position the Dutch Wing as a portal for the Dutch ministries, playing a role in pre-competitive step 1 of the 3-step-approach I&M is currently developing. This has various advantages for the ministries: easy access to Dutch and international knowledge, assistance in e.g. needs assessments of international governments in context of bilateral cooperation, contribution to a strong positioning of the Dutch knowledge and experience in delta issues. This will give the Dutch Wing a strong position, with income generating activities. Of course, the added value of Delta Alliance in this context is that the international Wings can play a significant role in these activities. For this purpose the Dutch Wing has to stay well organised with a strong leadership in order to quickly respond to needs and bring forward the best capacity of the Wing members.

4.3.2 Cooperation with Global Water Partnership (GWP)

Global Water Partnership and Delta Alliance have started in 2012 with the support of the Netherlands International Development Program – DGIS – a cooperation program that aims at developing a joint Global Program of Action on Deltas titled the 'Enabling Delta Life Initiative'. The general objective of the program is to strengthen the management of deltas.

To develop this initiative, Delta Alliance and GWP organised two workshops. One during the GWP Consulting Partners meeting focussing on different challenges countries face when addressing critical delta management issues. The second workshop focussed on the complexity of managing deltas and

suggested ways forward. In both workshops country representatives on-going initiatives and articulated specific priorities and actions towards enhancing the impact of these initiatives.

The draft Global Program of Action (launched during the Stockholm World Water Week 2013), has four work packages:

- *Work Package 1: Capacity Development* - facilitating structured learning and information sharing among stakeholders.
- *Work Package 2: Demonstration projects* - developing and implementing pilot activities in specific deltas.
- *Work Package 3: Knowledge and awareness* - developing a framework that would guide the management and sustainable development of deltas worldwide. This should build on earlier work by Delta Alliance using the DPSIR methodology and the GWP Strategic Framework for water security and climate resilience development.
- *Work Package 4: Governance and Fundraising* - Build internal capacity of partners and enhance regional/ country level partnerships' key competencies in fund raising, project coordination, financial management, stakeholder engagement, monitoring and evaluation.

In all WPs Delta Alliance can play a significant role. To further develop the focus of WP 2 GWP and Delta Alliance are jointly organizing a number of workshops in Benin, Bangladesh, Egypt, Cambodia/Vietnam and Thailand in 2013.

This cooperation is expected to become an important backbone of the Delta Alliance network beyond the Knowledge for Climate funding (see also chapter 7).

4.3.3 Trans-boundary Water Assessment Programme

Delta Alliance has been asked to participate in the sub project 'Rivers' of the Trans-boundary Water Assessment Programme (TWAP-Rivers) for the vulnerability assessment of approximately 30 deltas. TWAP-Rivers is funded by GEF (Global Environmental Facility) and coordinated by the UNEP-DHI Centre. The overall objective of TWAP is to undertake the first global assessment of transboundary water bodies, through a formalized consortium of partners, that will assist GEF and other international organisations to have a base line, to improve the setting of priorities for funding and to formalize the partnership with key institutions aimed at incorporating trans boundary conditions into regular assessments programs. It is anticipated that this baseline will serve to assist international funding agencies in tracking the impacts of their interventions in terms of changes in state of the aquatic environments under consideration.

Through the participation in this program and this consortium of world leading consortium of knowledge institutions Delta Alliance intends to obtain a globally recognized position in the assessment of trans boundary waters in general and of deltas in particular.

4.4 Reflection

Positioning the Dutch Wing as a portal for the Dutch ministries of I&M and Foreign Affairs/DGIS departments, would give the Wing a logical and recognizable position within the Dutch water sector. Regular assignments from the ministries provides cohesion and positions the consortium well for additional international assignments. Directors of the founding knowledge institutes are committed to this approach.

Partnering with GWP will give Delta Alliance a clear and strong embedded international position. GWP has a strong international network and Delta Alliance is complementary to it, due to its focus on knowledge.

When writing this document both the portal function of Delta Alliance towards the two Dutch ministries and the future relationship between Delta Alliance and GWP are still under development. It is critical for the future of Delta Alliance to formalise the positions as described before the end of 2013.

5 Knowledge sharing

5.1 Introduction

Knowledge sharing is a very important part of the back-bone of the Delta Alliance network. For that reason many activities are performed to elaborate the earlier formulated objectives and implementation strategy, which is being explained and illustrated in the following paragraphs.

5.2 Objectives

Objectives for knowledge sharing as formulated in the Delta Alliance Declaration:

- Share knowledge, expertise and best practices between deltas worldwide;
- Connect expertise and parties from throughout the watershed;
- Provide knowledge and insight to support any use, including education, policy development, investments and disaster response.

5.3 Strategy

Knowledge sharing is implemented by organizing several types of activities:

- Several preparatory workshops and the Delta Alliance Launch Event.
- Organisation of and participation in international conferences and workshops: keynotes, presentations, delta-sessions.
- Capacity building activities.
- Delta Alliance Publications Series and other publications.
- Newsletter.
- Website.

5.4 Activities and results

5.4.1 Preparatory workshops and Delta Alliance Launch Event

Phase 1 (1 April – 1 October 2009)

In phase 1 no workshops were organised but several contributing events took place just before phase 1:

- Organisation of International KvK hotspots workshop, 2009
- Participation in the Aquaterra Conference, Amsterdam, February 2009

Phase 2 (1 November 2009 – 31 December 2010)

- Organisation of a Delta Alliance side event during COP15 Copenhagen, December 2009
- For the s establishments of the Delta Alliance Wings several workshops and round tables have been organised in Vietnam, Indonesia, USA-California, USA-Louisiana, the Netherlands, Brazil, Bangladesh, Egypt and Mozambique,
- Delta Alliance Kick-off Workshop with participants from the various Wings preceding the official Delta Alliance Launch (28 September 2010)
- Official Delta Alliance Launch event during Deltas in Times of Climate Change Conference in Rotterdam, 29 Sept – 2 Oct 2010.

5.4.2 International conferences (keynotes, presentations, delta-sessions)

Delta Alliance has participated in many international conferences and events, either as co-organiser or as invited (keynote) speaker. The most important events are listed below:

Phase 1 (1 April – 1 October 2009)

- **San Francisco Bay: Preparing for the next level, San Francisco** (September 2009). A symposium jointly organised by Delta Alliance, BCDC and the Dutch Consulate General.

Phase 2 (1 November 2009 – 31 December 2010)

- **World Estuary Alliance Conference.** This conference has been jointly organised by WWF and Delta Alliance. June 2010, Shanghai.
- **Deltas in Times of Climate Change Conference, Rotterdam** (29 September – 2 October 2010, Rotterdam). Delta Alliance has (co-)organised various sessions of this conference.
- **GeoEcomar conference.** Presentation Delta Alliance – towards more resilient deltas and Delta Alliance-project 'Comparative overview of Deltas' by Tom Bucx. 21 October 2010, Bucarest
- **DELTAS 2010, New Orleans** (October 2010). Delta Alliance has given support to the organisation of this international event hosted by the America's WETLAND Foundation.

Phase 3 (1 January 2011 – 31 December 2013)

- **DELTA 2011- Deltas under Climate Change: the Challenges of Adaptation, Hanoi** (02-04 March 2011), organised by, among others, IWMI and IRRI. Two special Delta Alliance sessions, involving also the Bangladesh, Vietnam and Indonesia Wings.
- **ICID conference, Groningen** (16 – 20 May 2011). Special session organised by Delta Alliance with contributions from the Netherlands, California and Vietnam.
- **World Water Adaptation Program, Bilthoven** (23-24 May 2011) Active participation in workshop.
- **DeltaNet conference in Ebro delta (Barcelona)** (6-10 June 2011). Delta Alliance and vulnerability assessment presentation and exploration on future cooperation with DeltaNet; by Tom Bucx and Wim van Driel
- **Venice Conference** (12-14 September 2011): presentations on Delta Alliance and the vulnerability assessment by Pier Vellinga and Wim van Driel
- **International Water Week Amsterdam** (2- 4 November 2011), Delta Alliance organised four sessions: i) Assessments for Investments, ii) Bangladesh delta, iii) Mekong Delta, iv) Risk Management. Profiling Delta Alliance, and future development of business cases on assessments with IFC, WB and ADB.
- **World Delta Summit, Jakarta** (21-25 November 2011). Prepared by Indonesian Wing and supported by Delta Alliance International. Delta Alliance has actively supported the conference part of the Summit (contribution in the scientific and organisational preparation and participation of van Driel en Schrevel)
- **Global Conference on Land-Ocean Connection, Manila** (20-22 January 2012) organised by the Global Plan of Action of UNEP. Wim van Driel participated as keynote speaker for a special session on deltas. Further cooperation with UNEP, FAO, GEF and UNESCO explored.
- **International Conference on Flooding and Water Management, Bangladesh** (January 2011). Keynote presentation by Kees Slingerland.
- **World Water Forum, Marseille** (12-17 March 2012) Delta Alliance participated in a session on 'establishing a coalition of deltas'
- **World Water Day 2012, Wageningen** (March 22), Water@leeds seminar in Wageningen about functions and risk in river deltas in cooperation with University of Leeds.
- **World Water Week 2012** (Aug); Delta Alliance and GWP jointly organised two workshops, during the GWP Consulting Partners meeting and the WWW conference, with the aim to launch the Enabling Delta Life Initiative: a Joint Global Program of Action on Deltas.
- **World Water Day 2013, The Hague** (March 2013) Delta Alliance organised in cooperation with UNEP a session on Deltas.
- **World Water Week 2013, Stockholm** (1 September). Delta Alliance has co-convened the session From Source to Sea – Towards a River to Coast and Seas Connected Future. During this session the Joint Global Program of Action on Deltas has been highlighted.

5.4.3 Capacity building

Capacity building workshops (co-)organised by Delta Alliance:

Phase 2 (1 November 2009 – 31 December 2010)

- **Bandung workshop: 'Methods and tools for water-related adaptation to climate change and climate proofing'** (8 -10 March 2010) The workshop was co-organized by Delta Alliance and the Co-operative Programme on Water and Climate (CPWC) and also supported by the United Nations Development Program (Jakarta), the World Bank (Jakarta), UNESCO-IHE, KNMI (Dutch Meteorological Office) and BMKG (Indonesian Meteorological, Climate and Geophysical Institute). The workshop targeted some 110 Indonesian experts and government advisors, government officials at central and provincial level and practitioners who deal with water and/or climate related issues in development. Delta Alliance arranged also the participation of representatives of Vietnam and Bangladesh.

Phase 3 (1 January 2011 – 31 December 2013)

- Training workshop on Challenges and Approaches in River Delta Planning - Sharing experiences from SE Asian Deltas and the Rhine-Meuse, Ho Chi Minh City (November 2012). This workshop was jointly organised by Delta Alliance, Vietnam National University HCMC, UNESCO-IHE, Wageningen University and Deltares. Approximately 40 participants from Bangladesh, Indonesia, Vietnam and Myanmar.
- Delta Alliance - GWP workshops (2012). For the preparation of the 'Enabling Delta Life Initiative: a Joint Global Program of Action on Deltas' workshops have been organised in Benin, Egypt, Bangladesh and Myanmar. A trans boundary Vietnam-Cambodia workshop for the Mekong Delta will follow in October. Other workshops in Thailand, Indonesia, China and Ghana may follow later this year or early 2014.
- Workshops on KfC phase 3 funding will be organised by the end of 2013 in Bangladesh, California and Mozambique.
- Training Workshop: Delta Planning and Management - Challenges, Approaches and Experiences from Asian Deltas and the Rhine-Meuse Delta, Yangon, Myanmar (21-25 October 2013). This workshop is a follow up of the workshop organised in 2012 in Hanoi (see above).

Young professionals involvement:

Phase 2 (1 November 2009 – 31 December 2010)

- **DeltaCompetition2010** was jointly organized by Delta Alliance, Royal Haskoning and the City of Rotterdam to challenge students to craft solutions for climate change adaptations in the world's delta cities. It built upon the success of the 2006 and 2008 Delta Competitions hosted by Royal Haskoning. The worldwide competition challenged students to come up with creative and innovative solutions for delta cities that are under increasing pressure due to climate change. The three winning submissions were presented during the Rotterdam conference.

Phase 3 (1 January 2011 – 31 December 2013)

- Delta Alliance Young Professionals Award -Innovative solutions for delta challenges worldwide, 2012. This activity is described in paragraph 6.3.2.
- Mekong Delta Youth Alliance. Regular (organisational) support has been given to an organisation of young professionals in the Mekong Delta, among other through the successful submission of grant proposals to Both Ends.
- Involvement of students in Delta Alliance activities:
 - 2 Dutch students have performed their MSC thesis research with California Wing.
 - 1 Dutch student did her MSC thesis research in the Zambezi delta in Mozambique.
 - 6 Dutch students studied within the framework of an Academic Consultancy Training on the impacts of salinity intrusion in the deltas of Bangladesh and Vietnam.

Other relevant Capacity building initiatives:

Phase 3 (1 January 2011 – 31 December 2013)

- **Knowledge is Business for the Top Sector Water: Benefits from International Knowledge Networks** (January 2012) A joint Delta Alliance –UNESO/IHE Capacity building proposition to the Dutch Top Sector Water.

5.4.4 Publications

- Delta Alliance Reports No.1 – 5 (see next chapter for details) were mostly delivered in phase 3 (except for the Comparative Assessment of 10 deltas that was due in phase 2).
- Many other reports of Wings meetings etc. were published in all phases (see Annex 5 and <http://www.delta-alliance.nl/publications> for more details).

5.4.5 Newsletters

Delta Alliance Newsletter distributed by email to approximately 800 members

Phase 2 (1 November 2009 – 31 December 2010)

- 2010 editions in April, July, Sept, Oct, Dec.

Phase 3 (1 January 2011 – 31 December 2013)

- 2011 edition in March.
- 2012 special edition about Young Professionals Award.
- Due to lack of capacity in the International Secretariat the publication of Newsletters during phase 3 has (temporarily) been stopped. However the role of the newsletter is gradually taken over by messages on the Delta Alliance Website and LinkedIn Group.

5.4.6 Website (www.delta-alliance.org)

The Delta Alliance Website has become an increasingly important platform for exchange of information and knowledge for Delta Alliance. In 2009 the website was filled with information on Delta Alliance, its Wings, the Deltas, Projects, Events, News, Documentation, Publications and Archive. The website is updated regularly (couple of times each month). Linkages are made to social media: LinkedIn Delta Alliance group and Facebook Climate NL group. Since 2013 Delta Alliance is also (limited) active on Twitter.

The number of people visiting the website is still increasing from around 450 visitors each month in 2010 to around 1100 in 2011 and around 1500 in 2012. Most visitors came from the Netherlands, followed by USA, China and Germany. There were also many visitors from other EU countries, Russia, India, Indonesia, Vietnam, Bangladesh, Brazil and Argentina.

Many Delta Alliance reports and documents are downloaded from the website through the Knowledge for Climate databank. The Comparative assessment report of 10 deltas (synthesis report) is the number 1 with more than 1100 downloads. Several other Delta Alliance documents appear in the top 20 of documents downloaded from this databank.

5.5 Reflection

The output produced is in coherence with the objectives on knowledge sharing and capacity building. The Delta Alliance has realized a good outreach to both the Netherlands and international communities in the field of sustainable delta management. The continuously increasing numbers of visits and downloads of the Delta Alliance website are an illustration of the wide interest generated.

It could be noted though that a stronger direct link might have been established between the Delta Alliance envisaged portal function with the outputs of the Knowledge for Climate programme. Without a clear basic funding mechanism in place from the Knowledge for Climate programme Bureau over a period of more than a year this has not received the attention it should have deserved.

6 Knowledge generating activities

6.1 Objectives

Objectives for knowledge development as formulated in the Delta Alliance Declaration:

- Co-create and integrate knowledge across deltas, sectors and disciplines;
- Incorporate local knowledge in research and knowledge-building activities.

6.2 Strategy

During all phases project ideas were generated through brain storm sessions and identification missions.

6.3 Activities

6.3.1 Identification missions during phase 3

- Bangladesh, January 2011 (Slingerland en van Driel)
- California, 2 missions: January 2011 (Slingerland and van Driel) and November 2011 (Huizinga and Slingerland)
- Zambezi/Mozambique with extensive mission by WWF, Royal Haskoning, DHV, Deltares, Alterra.

Mission reports are available on the website

6.3.2 Knowledge gaps resulting from the Comparative Assessment

The Comparative Assessment identified in research gaps for the 10 deltas addressed (see Figure 3).

	Nile	Incomati	Ganges- Brahmaputra- Meghna	Yangtze	Ciliwung	Mekong	Rhine- Meuse	Danube	California Bay-delta	Mississippi River delta
Occupation layer										
Socio-economic scenarios (6)	•	•		•	•			•		•
Water use and treatment (5)	•	•	•		•		•			
Network layer										
Freshwater management (7)	•	•	•		•	•	•		•	
Dikes and dams (5)	•		•		•		•		•	
Base layer										
Effects of changes/ eco-system functioning (9)	•	•	•	•	•		•	•	•	•
Building with nature and natural safety (8)	•		•	•	•	•	•	•		•
Governance										
Governmental roles and arrangements (6)	•				•	•	•		•	•
Integrated delta management (6)	•	•	•	•	•			•		

Figure 3 Selection of knowledge gaps as identified in the Comparative Assessment.

6.4 Results

6.4.1 A set of brief project proposals

Brief project proposals were developed by the Wings for 18 projects (see Annex 6). The projects all contribute to the improvement of the resilience of deltas. As the added value of Delta Alliance is the promotion of cooperation between deltas, the projects focus on 3 or more deltas. The proposals are used to develop the workplan for phase 3 and will be used in the near future for the development of new activities by Delta Alliance.

6.4.2 Funded and realised research projects or initiatives

Phase 2 (1 November 2009 – 31 December 2010)

- San Francisco Bay: Preparing for the next level, San Francisco (2009).
- Delta Competition 2010.
- Comparative assessment of the vulnerability and resilience of 10 deltas, 2010.

Phase 3 (1 January 2011 – 31 December 2013).

- Delta Alliance Young Professionals Award – Innovative solutions for delta challenges worldwide, 2012. (funded by Dutch Ministry of Infrastructure and the Environment and the participating partners)
- GWP-Delta Alliance project on Enabling Delta Life, as preparation for a joint GWP-Delta Alliance research program, 2012 and 2013 (in 2012 funded by Dutch Ministry of Foreign Affairs – DGIS, in 2013 funded by GWP)
- Assessments for Investments – Dutch Business Case for Adaptation, with focus on the case of Bangladesh, 2012.
- Jakarta Climate Adaptation Tools.
- Deltas Initiative: Developing a Decadal Science Plan for Deltas, in cooperation with worldwide key research institutes and research programs (a.o. IGBP, LOICZ, UNEP).
 - Aug 2012 workshop in New York, presentation Delta Alliance by Tom Bucx.
 - Belmont forum proposal submitted in Dec 2012 is granted, kick-off meeting in Dec 2013 (during AGU conference San Francisco).
- TWAP (Transboundary Water Assessment Program) - delta assessment, 2013 (funded by GEF).
- Water Resources Assessments Mekong Delta. (Funded by the Dutch Partners for Water program)
- Scoping Phase Vulnerability and Resilience Assessment for the Ayeyarwady delta in Myanmar (Funded by FAO/GEF and GWP)

6.4.3 Delta Alliance reports

Delta Alliance series:

- No. 1 - Bucx, T., M. Marchand, A. Makaske, C. van de Guchte, 2010. Comparative assessment of the vulnerability and resilience of 10 Deltas – Synthesis report. Delta Alliance Report number 1. Delta Alliance International, Delft-Wageningen, the Netherlands.
- No. 2 - Dekker, F., W.F. van Driel, B. Geenen, 2011. High Potential in the Lower Zambezi – A way forward to sustainable development. Delta Alliance Report number 2. Delta Alliance International and World Wildlife Fund, Wageningen-Delft, the Netherlands.
- No. 3 - Krueger, I., L. Miguel Ayala, W.F. van Driel, 2012. Delta Alliance Young Professionals Award – Innovative solutions for delta challenges worldwide. Delta Alliance Report number 3. Delta Alliance International, Wageningen-Delft, the Netherlands.
- No. 4 – Marchand, M., T. Bucx, C. van de Guchte, A. Makaske, W.F. van Driel, 2013. Enabling Delta life – What makes managing land and water in deltas different? Discussion paper. Delta Alliance Report number 4. Delta Alliance International and Global Water Partnership, Delft-Wageningen, the Netherlands.
- No. 5 – Bergh, D. van den, T. Bucx, C. van de Guchte, 2012. Assessments for Investments – Dutch Business Case for Adaptation, with focus on the case of Bangladesh. Results from the session at the Amsterdam IWW/Aquaterra conference 2011. Delta Alliance Report number 5. Delta Alliance International, Delft-Wageningen, the Netherlands.

Other relevant publications

Many other relevant documents have been produced for instance as a result of workshops, etc. For an overview see the Delta Alliance website: www.delta-alliance.org/publications.

6.5 Short description and results of most relevant projects and initiatives

6.5.1 Comparative assessment of the vulnerability and resilience of 10 deltas

Delta Alliance has executed a comparative study on the various aspects of delta development and management for 10 deltas: the Nile, Incomati, Ganges- Brahmaputra-Meghna, Yangtze, Ciliung, Mekong, Rhine-Meuse, Danube, San Francisco Bay and Delta, and Mississippi River. An innovative framework for delta assessment has been applied, sufficiently generic to make this integrated approach applicable to all deltas. The synthesis report provides a comprehensive overview of the present status of these deltas. For each delta, a summarizing Delta scorecard provides an overall impression of the resilience and sustainability (current and future state), which for most deltas is not satisfactory. The knowledge and research gaps identified give ample opportunities for valuable knowledge exchange and collaborative (research) projects between deltas. This project has been carried out by Deltares, Alterra Wageningen UR, WWF and experts from the Delta Alliance Wings.

6.5.2 Delta Alliance Young Professionals Award

In scope of the Rio+20 United Nations Conference on Sustainable Development in June 2012, Delta Alliance organized a Young Professionals Award, inviting young delta professionals around the world to present their solutions to the challenges which river deltas are facing. The Dutch ministry of Infrastructure and Environment hosted and supported this award, which was coordinated by Delta Alliance in cooperation with Both Ends, Alterra, University of Twente, Grontmij, Arcadis, Deltares and WWF. An impressive number of 53 teams of young professionals from 29 countries answered the call and handed in their propositions of how to solve acute delta challenges such as land subsidence, saltwater intrusion or coastal erosion, and many more. An international Jury had the difficult task to select the award winners (jury report). On the 21st of June 2012, the winners of the Delta Alliance Young Professionals Award were presented at the Rio+20 United Nations Conference on Sustainable Development. The award-winning proposals were:

- Thriving Deltas by Richard Fisher and Ryan Whipple proposes the transformation of a location at risk in the Sacramento – San Joachin Delta in California into a pilot ground for new promising developments.
- Re-generating Delta by Frederico Curiel proposes a strategy for large scale micro-algae harvesting, converting the farmland along the coastline of the Pearl River Delta into large scale open algae harvesting ponds.
- Balance Island by Sander van Rooi, Emil Kuijs and Bert van Bueren aims at reducing salt intrusion and restoring natural estuarine dynamics and ecology by creating a semienclosed estuary with a series of constructed sandy islands in the South West Rhine-Meuse Delta in the Netherlands.

Instead of a casual cheque, the award winners received organizational, financial and scientific support to further develop their winning solutions. The final results are expected before the end of 2013.

6.5.3 GWP-Delta Alliance project on Enabling Delta Life

In the framework of the GWP Consulting Partners Meeting and the Stockholm World Water Week in August 2012 a discussion paper is made. It illustrates how the Global Water Partnership jointly with the Delta Alliance, supported by the Netherlands International Development Programme DGIS, have the intention to jointly explore how to further the sustainable management of deltas. This paper describes an integrated framework for delta assessment, the need for specific strategies for deltas, especially as it relates to integrated water resources management, and taking into account the increasing interest for the institutional, socio-economic, financial and awareness-raising aspects. The information presented is a 'snapshot' of the problems and approaches in several deltas, based on brief

case descriptions provided by delta representatives. It is anticipated that this report will contribute to work jointly towards a delta agenda 'Enabling Delta Life', providing guidance for implementation and joint pilots to enhance the knowledge base on issues of common interest.

6.5.4 Assessments for Investments

This report has been prepared in the framework of developing an 'Assessments for Investments' Business Case for Adaptation at the IWW/Aquaterra conference (1-3 November 2011 in Amsterdam) with a focus on the case of Bangladesh. It essentially comprises a generic approach towards risk assessment and risk management capacity as a universally applicable methodology for climate proofing ('Dutch Enabling Delta Life' or 'Delta Assessment' approach).

The objective is to show case the Dutch approach for adaptation and to seek the interest and clientele for this unique capability among the IFIs and other parties as to engage the Dutch expertise in their activities, to build and foster relations for cooperation and to market the Dutch approach.

Furthermore, the business case is to enhance the visibility and marketing competence of the NL knowledge institutions. Experiences from recent projects in Bangladesh are being used, as Bangladesh is a focus country under the Dutch 'Water Mondiaal' Program, while the issues to be discussed may be worthwhile to consider for the other Water Mondiaal focus countries and the DGIS focus countries as well.

6.5.5 Jakarta Climate Change Adaptation Tools

Aim of the research program is to build knowledge and tools for climate proof and integrated spatial planning and water management and to incorporate newly developed insights directly in projects in Jakarta. Therefore two Indonesian PhD candidates are carrying out applied research. One PhD is focusing on tools to assess flood risk under future climate and socio-economic change, the other is focusing on the economic costs and benefits of alternative options for climate adaptation. Both PhD projects aim to contribute to climate proofing of integrated spatial planning and water management in Jakarta and link up with projects in other deltas such as the Netherlands and Vietnam. A consortium consisting of Royal Haskoning, LIPI, Gadjah Mada University, Agricultural University Bogor, VU Amsterdam and Wageningen University is carrying out this project in close cooperation with the Indonesian Delta Alliance Wing. To link to the practical applications they work also closely together with government agencies and consultancies.

6.5.6 Deltas Initiative: Developing a Decadal Science Plan for Deltas

The need for a Global Delta Sustainability Initiative has been voiced by the international community which called for the establishment of the International Year of Deltas (IYDs), as a year to launch such an initiative (Foufoula-Georgiou *et al.*, 2011). The IYDs effort has been endorsed by several international scientific bodies such as IGBP, LOICZ, WRCP, IGU (see www.iyds-2013.org) and has been proposed to serve as a springboard for awareness and a call to arms for global coordination of science and policy for delta sustainability over the next decade. Therefore the development of a comprehensive science plan is focussing on a decade rather than a single year.

The Delta Alliance (through Deltares) took part in the preparation for developing a Decadal Science Plan for Deltas (Aug 2012 workshop in New York) and contributed to the following Belmont Forum (BF) proposal (call on Coastal Vulnerability): 'DELTAS - Catalyzing action towards sustainability of deltaic systems with an integrated modeling framework for risk assessment'. The overall goal of the BF-DELTAS project is to unify our scientific understanding of deltas as coupled socio-ecological systems and to develop a science-based integrative modelling framework that can be used to assess delta vulnerability and guide sustainable management and policy decisions at the regional and local scales. This proposal was recently accepted and the project will start in December 2013. The team represents the BF-G8 countries: India, Japan, USA, Canada, Germany, France, Norway, China, and UK and includes partners in the Netherlands, Vietnam, Bangladesh, and Brazil. It is composed of government and university researchers, and NGO's, working closely with policymakers. Training of graduate

students and post-docs able to work across disciplinary boundaries and countries will be a unique legacy.

6.5.7 TWAP - delta assessment

The GEF (Global Environmental Facility) Transboundary Water Assessment Programme (TWAP) seeks to develop methodologies for conducting a global assessment of transboundary water systems and to catalyse a partnership and arrangements for conducting such a global assessment. River basins constitute one of the water systems analysed in this programme, and may include deltas, occurring where a river flows into a lake or into the sea. The physical geography of deltas often strongly differs from the neighbouring parts of the river basin, in terms of relief, subsurface characteristics and hydrology. Deltas often host important population numbers, agricultural production areas and economic activities. For these reasons, it is felt that deltas need special attention in the TWAP river basin assessment. Delta Alliance was asked to join the project and to elaborate a global assessment on (transboundary) deltas.

Building on the approach which was applied in the Delta Alliance-project Comparative assessment of 10 deltas, an overall delta vulnerability index is being developed based on the following five indicators (addressing main delta threats): delta drowning risk indicator, wetland ecosystems indicator, salinization indicator, delta governance indicator, population pressure indicator.

6.5.8 Water Resources Assessments Mekong Delta

During the Joint workshop for the Vietnam-Netherlands Mekong Delta Masterplan project (Can Tho, March 29/30) it was proposed to start with Water Resources Assessment studies in preparation of the activities of the Mekong Delta Masterplan. The Assessment studies project was tendered by the Partners for Water program. The project was awarded to the consortium Deltares (lead), Alterra and Infram. The consortium agreed to execute the project under the umbrella of Delta Alliance. The respective assessment studies were carried out by (consortia of) Vietnamese institutions. Modest content-related support and coordination was provided by the Delta Alliance partners, among others to ensure that consistent and comprehensive reports were prepared (mid-term and final). The major objective of the Assessment Studies was to obtain good insight into the availability of data and information related to water, as well as in the actual problems and constraints in the Vietnamese part of the Mekong Delta. Basic data and information with regard to the overall development policies of the Mekong Delta could be derived from the Socio-Economic Development Plan (SEDP) 2011-2015. This plan covers the middle- and long-term development goals, the market structure, urban development planning, land use etc., specified for all relevant economic sub-sectors. As the SEDP's in general did not give much detail within the sub-sectors, for related issues in the water resources sub-sector more investigations (desk studies) were needed. The scope of the Assessment Studies was on eight specific subjects (themes), identified during previous workshops and meetings. A series of documents was produced on these 8 themes.

6.6 Reflection

The activities described contributed directly to the formulated objectives. The Delta Alliance report series reflect the co-creation and integration of knowledge across different deltas in the world. It is here where the added value of the Delta Alliance becomes visible: exchange of knowledge and experiences between deltas, provided from within the respective scientific delta communities (Wings), making it accessible to a wide audience. It is worthwhile to consider widening the scope of this study, by improving the methodology, by including more deltas in a kind of growing compendium on deltas, and by deepening specific thematic elements in the analysis, such as delta governance aspects, urban delta development or delta ecosystem services.

Knowledge gaps have been identified by the same Wing-communities themselves, providing ample opportunity to identify issues of common interest to initiate further (applied) research projects. This is furthered in the phase 3 Delta Alliance work programme.

The Delta Alliance Resilience Strategy has been illustrated e.g. in the Delta Alliance report on the Lower Zambezi. This strategy is much in coherence with the Netherlands approach for sustainable delta development. Interestingly, the Global Water Partnership has taken it up as a key element in their new Strategy and Programme of Work 2014-2018. Also elements of our delta knowledge are taken up in other initiatives, such as in the GEF Transboundary Waters Assessment Programme and the Belmonte Forum Decadal Science Plan for Deltas.

Through the Delta Alliance Young Professional Award innovative approaches became visible, providing inspiration and support for case-specific improvements and implementation of the DA Resilience Strategy. It seems plausible to arrange for a same type of competition in one of the coming years.

7 Outlook

7.1 Where do we stand?

The ambitions were high, a lot of work has been done and many results were achieved. Delta Alliance has developed an ambitious and inspiring strategy in order to improve the resilience of deltas and throughout the world parties have expressed their willingness to help to achieve our goals. We have been good ambassadors of Delta Alliance and so Delta Alliance is a well-known entity in international arena. At the same time, the position of Delta Alliance in the Netherlands needs to improve. Our organisation is set up thoroughly with the right bodies and procedures. Delta Alliance Foundation is capable of concluding contracts with financiers on behalf of its partners and financial transactions can be performed. At the same time Wings could have been more active and the interaction between the Wings and the secretariat needs to be improved. As a result the activities of the Delta Alliance community could have been more specifically geared towards achieving the goals of Delta Alliance in the Wing deltas.

So for the near future we need to focus on (i) activating the Wings and a stronger interaction between the secretariat and the Wings, and (ii) a strong, active and strategically operating Dutch Wing. The following sections describe how Delta Alliance will address these issues in the near future.

7.2 Strategy

Delta Alliance will continue to implement its resilience strategy by:

- Assessing and monitoring the resilience of deltas to climate change and other pressures
- Creating pressure, awareness and momentum for improved resilience through knowledge sharing and capacity building activities.
- Providing knowledge generating activities for improved resilience of deltas to climate change and other impacts.

7.3 Organisation and network

7.3.1 Organisation

2-3 fte of capacity is needed to maintain and step-up communication with the Wings, to prepare meetings of various bodies, to stimulate new activities, monitor on-going activities, etc. Up to now the International Secretariat has been staffed with individuals from the Dutch Wing only. In 2014 they will be complemented with young professionals from 2 or 3 Wings. This will give them an interesting professional experience, and provide the secretariat with fresh blood, new views and approaches. The experience will turn them into good ambassadors once they return home, and it helps to perform secretariat tasks at low costs.

7.3.2 The network

The network of Wings needs to become more active. In the second half of 2013 the relationship between the Wings and the International Secretariat will be clarified and formalised. Possibly a few less-active wings will cease to be member of Delta Alliance. At the same time, it will become easier for new national consortia to become a Delta Alliance Wing. We therefore foresee to start 2014 with a limited set of wings, that actively contribute to Delta Alliance.

The Advisory Board (with representatives from each Wing) will convene (at least) yearly and provide clear advice to the governing board. This increases ownership amongst the Wings, interaction between

the Wings and provides new and targeted ideas for the future, that address the needs of the Wing deltas.

7.4 Enforcement of the Dutch Wing

Although the Dutch Wing has a similar status as all other wings, it is clear that the Dutch Wing will be the engine of the network for the next few years. Therefore a strong and active Dutch Wing is critical for the success of Delta Alliance. The following steps will be taken to enforce the Wing:

- The Dutch Wing will predominantly exist of knowledge institutes and universities as this is of more added value in the current Dutch context (see also 3.5.2).
- The commitment of the participating institutes needs to become clear. Discussions are taking place with the management of Deltares, Alterra, Unesco-IHE and others to ensure this commitment.
- This implies (amongst others) a broad participation of employees of the institutes in order to stimulate cooperation and synergy in international delta activities. Informative lunch meetings at the institutes are planned for late 2013.

When the above issues are in place the Dutch Wing will be an attractive partner for the Dutch ministries, because of its access to an extended international network and up to date (international) knowledge base on delta issues. Various types of activities are foreseen in this context:

- Knowledge broker for the Ministry of I&M for priority deltas, making accessible knowledge networks in the target countries and review of existing knowledge in priority deltas. When writing this document Delta Alliance and I&M are discussing the possibilities for this task.
- The Top Sector Water decides increasingly on the focus of research programmes of the Dutch knowledge institutes. The international focus is still under development. In this context Delta Alliance can help to identify knowledge gaps, specifically for international activities of the Dutch water sector. Delta Alliance is in discussion with the Kernteam Delta Technology regarding this role.
- Assist the Ministry of Foreign Affairs in setting research objectives in the field of water, climate and water-food issues (knowledge platform Water) to enhance targeted scientific research and further upgrading of the respective MASPs. Delta Alliance is in discussion with DGIS about its role in this identification process, especially where it relates to knowledge for sustainable delta development.

This way, the Dutch Wing will ensure a strong international position of Dutch knowledge and expertise and will also enforce the international position of the entire Dutch Water Sector. Also experiences from partner countries can be brought into the Dutch Delta Programme.

7.5 Further development of the international activities and profile

Through active participation in the international arena, Delta Alliance has obtained a strong and recognised international position. Delta Alliance will continue to liaise with other international delta oriented initiatives, such as the Global Water Partnership strategy 2014-2018, the Belmont Forum initiative on a Decadal Science Plan for Deltas, the GEF Transboundary Waters Assessment Programme, the Alliance for Global Water Adaptation, and the SIWI/UNEP initiated From Source to Sea partnership..

In this context Delta Alliance will specifically focus on cooperation with the Global Water Partnership (GWP). In the renewed strategy of the GWP delta issues have a prominent place in furthering the Integrated Water Resources Management guidance which the GWP has advocated for many years. The GWP and Delta Alliance are co-developing the Delta component of the GWP strategy. It comprises exploring the added value of a delta approach complementary to existing IWRM principles, executing pilots in some eight deltas in partner countries of both GWP and Delta Alliance, and capacity building on sustainable delta development. Liaising with these international global initiatives enables Delta Alliance to further improve and implement its resilience strategy.

7.6 Strategy for funding

The International Secretariat will be the driving force behind the network. An estimated 2-3 fte is required for a proper functioning secretariat and €50.000 for operational costs (traveling, printing, website, etc). There are various options for generation of cash income:

- The cooperation with GWP in the joint Global Program of Action on Deltas may result in structural funding for a number of years.
- By performing frequent tasks for the Dutch ministries Delta Alliance aims to generate income for executing these tasks. Clearly, the tasks can only be performed when the international network is in place and functioning, and therefore the costs for maintaining the network will be part of the negotiations.
- Increasingly Delta Alliance is acquiring projects for its partners. At times it will be possible to charge a fee for this achievement or have management tasks performed by secretariat staff, which generates income.

Further, staffing the International Secretariat with young professionals of international partners will reduce de costs. It is well possible that early 2014 income will not cover the costs of the International Secretariat; in that case the fall back option is an in-kind contribution by members of the Dutch Wing.

Annex 1 Delta Alliance Resilience Strategy

The strategy for realizing the Delta Alliance mission is summarized below. This strategy depends upon close cooperation with many partners, which will be detailed throughout 2010 and 2011.

The Delta Alliance mission will be realized by:

1. Envisioning and defining resilience for deltas;
Short Term (2010 – 2012)
 - Create visions for resilient deltas with stakeholders in the deltas
 - Create a Resilience Working Group to formulate a resilience framework for defining and measuring resilience in deltas including criteria and measurable indicators.Long Term (2012 onward)
 - Create visions with deltas where there is interest to join Delta Alliance
 - Refine and improve the resilience framework
2. Measuring and monitoring resilience;
Short Term (2010 – 2012)
 - Delta Comparative Overview in 2010Long Term (2012 onward)
 - Annually measure resilience in select deltas according to resilience framework by integrating available data from across the delta
 - Identify gaps in available data and information
3. Reporting and creating pressure for improved resilience;
Short Term (2010 – 2012)
 - Invite organizations and individuals, including high level representatives from across sectors, to sign the Delta Alliance DeclarationLong Term (2012 onward)
 - Regular (every 2 years?) 'Report Cards' on the resilience of select deltas, that give both a quick summary of the resilience of the delta and detailed information on specific indicators – to be presented at an annual Delta Alliance – World Estuary Alliance event
 - Prizes for deltas that have improved their resilience since the previous Report Card
 - Presentations at international events by members of the Resilience Working Group and Delta Alliance ambassadors
4. Providing inspiration for improved resilience;
Short Term (2010 – 2012)
 - Showcase best practices and lessons learned from across deltas for both preparedness and responseLong Term (2012 onward)
 - Host design sessions in selected deltas during annual Delta Alliance and World Estuary Alliance event, which include practitioners and experts from deltas around the world
5. And providing assistance for improved resilience.
Short Term (2010 – 2012)
 - Create international Delta Response Team to provide rapid support when damaging events occur
 - Attract funding and invest in projects that contribute to improved resilience in deltas
 - Co-create innovative projects with partner organizations, funding agencies, governmental and non-governmental organizations, private sector and/or research and policy programs
 - Strengthen the international delta network in exchanging information and expertise resources in and between deltas worldwide
 - Create Young Delta Alliance to support the Resilience Working Group and Delta Response Team

Long Term (2012 onward)

- Prepare 'guidelines' for delta management and response
- Host courses on delta management and response

Annex 2 Composition of the Delta Alliance Wings

Vietnam: Mekong

Coordinating agency: Vietnam National University Ho Chi Minh City

Wing Coordinator: Professor Le Quang Minh (lqminh@vnuhcm.edu.vn)

Network

Universities and research institutes

- Vietnam National University Ho Chi Minh City
 - Centre for Water and Climate Change
 - University of Technology
 - University of Science
 - Institute for Environment and Resources
 - University of Social Sciences and Humanities
- Can Tho University (incl. DRAGON Institute for Climate Change)
- Tra Vinh University
- An Giang University
- Southern Institute for Water Resources Research
- Vietnam Institute for Meteorology, Hydrology and Environment
- Hanoi Water Resources University
- Hanoi University for Agriculture.

Provincial level authorities

- A local network of all the 13 provinces of the Mekong including the Departments of Agriculture and Rural Development (DARD) and the Department of Environment and Natural Resources (DONRE).

Bangladesh: Ganges – Brahmaputra – Meghna delta

Coordinating agency: Institute for Water Modeling (IWM)

Wing Coordinator: Professor Monowar Hossain (mnh@iwmbd.org)

Network

Universities and research institutes

- Institute for Water Modelling (IWM)
- Bangladesh University for Environment and Technology (BUET)
- BRAC University
- Bangladesh Centre for Advances Studies (BCAS)
- Centre for Environmental and Geo-Information Services (CEGIS)
- Bangladesh Institute of Development Studies (BIDS)
- Institute for Water and Flood Management, BUET

Governmental organisations

- Bangladesh Water Development Board (BWDB)
- Bangladesh Agricultural Research Council (BARC)
- Water Resources Planning Organisation (WARPO)
- NGO's
- NGO Forum
- ECOMAC

Indonesia: Ciliwung en Mahakam delta

Coordinating agency: Indonesian Institute of Sciences LIPI

Wing Coordinator: Professor Jan Sopaheluwakan (jan.sopaheluwakan@gmail.com)

Network

Universities and research institutes

- Indonesian Institute of Sciences LIPI
 - International Centre for Interdisciplinary and Advanced Research,
 - Scientific Services, Indonesian Institute of Sciences
 - Research Centre for Limnology
 - Research Centre for Quality System and Testing Technology
- Bogor Agricultural University
- Gada Madja University
- Sam Ratulangi University, Manado (North Sulawesi)
- Tarumanegara University, Pontianak (West Kalimantan)
- Research Centre for Water Resources (PUSAIR), Ministry of Public Works (PU)
- National Coordinating Agency for Survey and Mapping (Bakosurtanal)
- National Agency for Meteorology, Climatology and Geophysics (BMKG)
- National Aeronautics and Space Agency (LAPAN)

Governmental and provincial level authorities

- National Planning Agency (Bappenas)
- Ministry of Marine and Fishery (KKP)
- Ministry of Environment (KLH)
- National Spatial Planning, Ministry of Public Works (PU)
- Division Environment, Provincial Government of Jakarta
- Regional Planning Agency, Provincial Government of Jakarta

Egypt, Nile delta

Coordinating agency: National Water Research Centre (NWRC)

Wing Coordinator: Prof Dr Mohamed Abdel Motaleb (motaleb@nwrc-eg.org)

Network

Research Institutes and Universities

- National Water Research Centre (NWRC)
- Water Management Research Centre
- Nile Research Institute
- Strategic Research Unit (of NWRC)
- Drainage Research Institute
- Environment and Climate Research Institute
- Groundwater Research Institute
- Coastal Research Institute
- Agricultural Engineering Research Institute (AERI)
- Cairo University

Governmental organisations

- Ministry of Water Resources and Irrigation
- Dutch – Egyptian Advisory Panel Projects Central Office

Mozambique, Zambezi delta

Coordinating agency: Eduardo Mondlane University

Wing Coordinator: Dr. Dinis Juizo (juizo@hotmail.com)

Network

Universities

- Eduardo Mondlane University
- Catholic University of Beira (incl. GIS Centre)

Governmental organisations

- Direccion National des Aquas (DNA)
- ARA- Zambeze
- Zambezi Valley Development Agency

Private sector

- DHV Mozambique
- Resilience Mozambique

NGO's

- WWF Mozambique

USA- California: California Bay and Sacramento/Sao Joachim Delta

Coordinating agency: San Francisco Bay Conservation and Development Commission (BCDC)

Wing Coordinator: Steve Goldbeck (steveg@bcdcc.ca.gov)

Governmental organisations

- San Francisco Bay Conservation and Development Commission (BCDC)
- Delta Stewardship Council
- Delta Science Program
- U.S. Geological Survey
- Port of San Francisco

Universities

- UC Davis
- UC Berkeley
- UC Los Angeles
- Stanford University

Private sector

- Arcadis US

NGO

- American Planning Association

USA – Louisiana: Mississippi delta

Coordinating agency: Louisiana State University

Wing Coordinator: Dr Robert Twilley (rtwilley@lsu.edu)

Network

Universities and research centres

- Coastal Sustainability Consortium
 - Louisiana State University and A&M College,
 - Tulane University,
 - University of Louisiana at Lafayette,
 - University of New Orleans
- Coastal Sustainability Studios
- National Center for Earth Surface Dynamics (NCED)

Governmental organisations

- U.S. Geological Survey: Wetlands Centre and DRAGON network
- Office of Coastal Protection and Restoration

NGO's

- American Wetlands Foundation
- CRCL: Coalition to Restore Coastal Louisiana

Private sector

- Davis Waggoner and Partners (Architects)
- American Planning Association

Brazil: Inner-delta of the Pantanal

Coordinating agency: Brazilian Agricultural Research Corporation (EMBRAPA)

Wing Coordinator: Débora Calheiros (calheirosdebora@gmail.com)

Universities and research institutes

- Brazilian Agricultural Research Corporation (EMBRAPA)
- Federal University of Mato Grosso
- State University of Mato Grosso

NGO's

- WWF Brazil

Argentina: Parana Delta

Coordinating agency: Instituto Superior de Urbanismo, Territorio y Ambiente (ISU)

Wing Coordinator: Verónica Zagare (veronica@phicoms.com.ar)

Network

Universities and research institutes

- Instituto Superior de Urbanismo, Territorio y Ambiente (ISU)
- Universidad de Buenos Aires
- Centro de Estudios en Cambio Global (Center for Global Climate Change Studies)
- Fundación Torcuato Di Tella - Instituto Torcuato Di Tella

NGO

- Wetlands International Argentina

China: Yangtze delta

Coordinating agency: WWF China

Wing Coordinator: Wenwei Ren (WWRen@wwfchina.org)

Network

NGO

- WWF China

The Netherlands: Rhine – Meuse delta

Coordinating agency: Deltares

Wing Coordinator: Cees van de Guchte (cees.vandeguchte@deltares.nl)

Network

Universities and research institutes

- Deltares
- Alterra - Wageningen UR
- ITC - University of Twente
- TU – Delft
- UNESCO – IHE
- VU – IVM (Free University Amsterdam)
- University of Utrecht
- Radboud University
- LEI - Wageningen UR
- IMARES – Wageningen UR

NGO's

- WWF
- Both ENDS

Private sector

- Arcadis
- Grontmij
- Royal HaskoningDHV

Remarks:

- Delta Alliance is still a network in development.
- The coordinating agencies and Wing coordinators are officially nominated and maintain the contacts with the International secretariat.
- The mentioned networks are not formalised (yet).
- The organisations mentioned having shown interest in Delta Alliance and/or have taken part in an event or activity organised by Delta Alliance International or the Wing Coordinator. They should be seen as potential members in the respective Wings once they are going to be formalised.
- In the case of Bangladesh, the organisations mentioned are member of the Steering Committee of the Bangladesh Wing.

Annex 3 Membership agreement between Wings and Delta Alliance International

**Membership agreement between the
Foundation Delta Alliance International
and
[..name..] as Coordinating Agency
for the establishment of the
Delta AllianceWing**

The International Governing Board of Delta Alliance, represented by Ms. Tineke Huizinga-Heringa and {name coordinating agency, adress, town, country) represented by agree to the establish the Wing of Delta Alliance.

The establishment of the Wing of Delta Alliance is subject to the following conditions.

1. Conditions and obligations for the Wing

Adherence to the Delta Alliance Declaration

All the organizations participating in the Wing should adhere to the Delta Alliance Declaration (see text box). The Wing is expected to have a pro-active attitude to assist in achieving the goals of Delta Alliance International by showing initiatives and by undertaking concrete activities jointly with the International Secretariat and/or other Wings.

The Delta Alliance Declaration

Whereas Delta Alliance has the mission to improve the resilience of deltas worldwide;
Whereas deltas are highly valuable and vulnerable locations;
Whereas economic, ecological, and social resilience are interdependent and essential for overall resilience.

The members of Delta Alliance will together develop and share knowledge to:

- envision resilient deltas;
- measure, monitor and report resilience in deltas; and
- provide inspiration and support for improved resilience in deltas.

In pursuing these goals, members will strive to:

- share knowledge, expertise and best practices between deltas worldwide;
- co-create and integrate knowledge across deltas, sectors and disciplines;
- connect expertise and parties from throughout watersheds;
- incorporate local knowledge in research and other knowledge-building activities; and
- provide knowledge and insight to support any use, including education, policy development, investments and disaster response.

Composition

The composition of the Wing is such that it possesses knowledge and expertise regarding the majority of the challenges of the delta.

The following organisations are already actively participating in the ... Wing:

Name of organization	Type of organisation	Representative

The Wing Coordinating Agency is committed to include more partners from the [knowledge, governmental, ngo, private] sector and/or to include organizations which are specialized in the following disciplines:.....

Coordination

The Wing will be coordinated by [name organization] as Coordinating Agency. The Coordinating Agency will nominate [Mr/Ms name.....] as Wing Coordinator. The Coordinating Agency confirms that the [name of the coordinating agency) and the Wing coordinator have been accepted by all partners. The Coordinating Agency is responsible for the organization of the Wing, the coordination of the activities within the Wing, and the communication and cooperation with the international secretariat.

The coordination within the Wing will be assured through a Steering Committee representing all the participating organizations and preferably headed by the Wing coordinator. The tasks and powers of the Coordinator, the Coordinating Agency and the Steering Committee, as well as any further rules regarding meetings and decision-making, should be specified further in internal Rules and Regulations.

Legal status

The organizational structure needs to be formalized in order to obey to the rules of accountability and transparency. The structure to be chosen should be adapted to the local situation and rules. If the Wing itself doesn't have a legal status, the Coordinating Agency will be fully responsible and accountable for the activities of the Wing and for the relation with the foundation Delta Alliance International.

Transparency

There will be guarantee and continuous evidence that transactions will take place in a transparent way. In case of financial transactions between the International Secretariat and the Wing financial audits can be requested.

Contribution to the foundation Delta Alliance International

The ... Wing will contribute to the functioning, development and maintenance of the Delta Alliance International organization and network, through the following activities:

- Organise local activities with local wing partners and stakeholders that contribute to the overall mission of Delta Alliance.
- Actively contribute to acquiring funded projects for the wing partners, preferably in cooperation with partners from other Wings.
- Earmark existing projects as Delta Alliance projects, if these projects fulfil Delta Alliance criteria to be determined on a case-to-case basis in cooperation with the Delta Alliance International Secretariat, and if agreed by the project's partners and clients.
- Participate in at least 1 international conference or activity per year, (co)organised by Delta Alliance International or one (or some) of the Wings.

-
- Participate in meetings of the Delta Alliance Advisory Committee (see below).
 - Actively contribute to knowledge dissemination in cooperation with the international secretariat, e.g. through the Delta Alliance website, brochures and other communication means.

All activities will be carried out at own costs.

2. Conditions and obligations for Delta Alliance International

Participation in a worldwide network that calls for special attention for deltas

Delta Alliance International provides for the Wing participation in a worldwide network of organizations that are dealing with delta issues. Delta Alliance has the overall mission to improve the resilience of deltas and will draw the attention of amongst others policy makers and funding agencies to the high vulnerability of many very valuable deltas. At the same time the specific challenges of each of the participating deltas can also be brought under the attention of these agencies. For that purpose Delta Alliance has already supported a 'Comparative assessment of the vulnerability and resilience of 10 deltas' and will continue to improve the quality of such assessments, to include other deltas and to present the results in the relevant arenas.

Delta Alliance will also play an active role in international fora and networks that could contribute to its mission.

Access to knowledge and experiences in other deltas.

Delta Alliance International will actively stimulate the exchange and dissemination of knowledge related to delta issues through a website, Newsletters, social media, comparative studies and assessments, publications, data bases, workshops, conferences, etc. The Wings are also offered opportunities to participate actively in these media and activities.

Use of the 'brand' Delta Alliance

The Wing can use the 'brand' Delta Alliance as a quality guarantee for the promotion and funding of projects and activities. For the use of the brand Delta Alliance close communication with the International Secretariat is needed. Delta Alliance International will actively promote and safeguard the brand Delta Alliance.

Fund raising and inter-delta cooperation

Delta Alliance International will actively promote and support inter-delta cooperation and assist in finding the necessary funding for these activities. Delta Alliance has already noticed that several funding and international cooperation agencies subscribe the advantages of inter-delta cooperation. For that purpose Delta Alliance International will develop good relations with such agencies and stimulate the creation of new inter-delta cooperation programs. The Wing will be offered opportunities to participate in tenders and projects initiated by Delta Alliance International or another Wing.

3. Advisory Committee

The International Governing Board offers each wing a seat in the Advisory Committee of Delta Alliance International. The Advisory Committee shall inter alia have the following advising tasks:

- a. making recommendations regarding the overall granting of available budget to projects in the field of scientific research and development;
- b. making recommendations to the Board in the field of strategy, scientific tendencies and technologies in relation to deltas;
- c. making recommendations to the Board with regard to new initiatives, or steering existing initiatives of the Foundation;
- d. on request giving scientific and technical advice to the International Secretariat and the Board;
- e. reviewing and evaluating current projects in the field of scientific research and development.
- f. determining, adjusting and evaluating objects and goals of the Foundation, as well as developing a strategic policy plan;
- g. taking the initiative for finding and mobilizing financial resources for developments;
- h. organizing activities to promote new activities of the Foundation;

-
- i. making proposals to the Board for nomination for new members of the Advisory Committee,
 - j. making recommendations on request as well as by own initiative.
- The recommendations of the Advisory Committee are not binding. The participation will be on the cost of the Wing unless otherwise agreed.

4. Dissolution of this agreement

In conformance with the articles of the foundation Delta Alliance International the International Governing Board can decide to dissolve this agreement:

- a. when a Wing decides itself to terminate its relation with the Foundation
- b. when the Board decides not to recognize the network any longer as Wing.

The Board can only take such a decision if it is clear that it is no longer reasonable to continue the recognition of the Wing.

Signed,

On behalf of
Delta Alliance International

on behalf of
{ name coordinating Agency}

Ms. Tineke Huizinga-Heringa
Chairperson
International Governing Board

{Name..}
position

[date.....], in { place.....}

[date.....], in { place.....}

Annex 4 Overview of partnering activities

Knowledge for Climate (KfC) and Climate for Spatial Planning

During the 2nd phase Delta Alliance has strived for direct connections between the activities in its international Wings and the activities in the regional hotspots and within the research themes of KfC. A good example is the involvement of the consortium leader (Prof. dr. E.C. van Ierland) of the KfC theme 'Decision support tools' in the Delta Alliance project 'Jakarta Climate Change Adaptation tools'. Furthermore, Delta Alliance has actively contributed to the organization of the KfC International Conference Deltas in Times of Climate Change, through a number of workshops organized by Delta Alliance as well as through the organization of a number of the Delta sessions, notably Bangladesh, Egypt, Indonesia and USA-California.

Water Mondiaal

At the initiative of the KfC coordinator of the Ministry of I&M, the coordinator of Water Mondiaal and the Program Manager of Delta Alliance, three meetings have taken place between Delta Alliance and Water Mondiaal to explore the possibilities for alignment and cooperation. Water Mondiaal consists of three main components: Governance to Governance (G2G), Knowledge to Knowledge (K2K) and Business to Business (B2B). The discussions focused on how Delta Alliance (members) could play a role in the development of the K2K agenda of Water Mondiaal in the various deltas.

A number of successful examples of cooperation with Water Mondiaal are available:

- During a pre-identification mission of Delta Alliance to Bangladesh, the mission paid at the special request of Water Mondiaal also attention to the further development of the K2K component of Water Mondiaal.
- The coordinator of Water Mondiaal Egypt requested the inclusion of the Nile Delta in the Comparative overview of deltas study.
- Under the umbrella of Delta Alliance, Deltares Alterra and Infram have conducted water resources assessment studies for the development of the Mekong Delta Plan.

However, the overall conclusion is that cooperation between Water Mondiaal has been less than expected.

World Estuary Alliance

Several cooperation activities between Delta Alliance and World Estuary Alliance have taken place:

- Joint development of an online information platform. Unfortunately, due to the high exploitation costs, this platform is still offline, awaiting funding sources;
- Delta Alliance has been co-organizer of the with 1st World Estuary Alliance Conference in Shanghai in June 2010;
- the two Alliances have expressed the interest to share annual conferences;
- WEA and its founding father WNF are important partners in the Delta Alliance Comparative Overview of Deltas project.
- a possible merge between Delta Alliance and WEA has been discussed during the Shanghai strategy session, but at that moment it was agreed that for the time being the two would continue in parallel to benefit from where their networks and objectives are unique.

Connecting Delta Cities

Delta Alliance and World Estuary Alliance are cooperating with Connecting Delta Cities through shared communication materials, cooperation on select events, and assisting in developing networks in common regions. Through CDC the City of Rotterdam participated also in the Delta Competition 2010 primarily organized by Delta Alliance and Royal Haskoning DHV.

Aquaterra

The Comparative Overview of Deltas project was built on the results of Aquaterra 2009, which also had a focus on deltas.

Delta Research and Global Observation Network (DRAGON)

Delta Alliance has good contacts with this international community of practice to share data on the great deltas and rivers of the world. DRAGON has actively contributed to the session on Inter-delta Cooperation organised by Delta Alliance during the Rotterdam conference. DRAGON representatives participated also in other Delta Alliance sessions in Rotterdam and in the Strategy session in Shanghai. Delta Alliance will explore the possible role of DRAGON in the monitoring of the resilience of deltas. Outside the US DRAGON is mainly focusing on the Mekong delta in Vietnam through the Climate Change Centre of Can Tho University, partner in the Vietnam Wing of Delta Alliance and with which various Dutch Delta Alliance partners have joint projects. Overall, DRAGON officials have shown great interest in cooperation with Delta Alliance.

Dutch Dialogues

Delta Alliance took part in the third Dutch Dialogue design session held in New Orleans in April 2010, bringing together Dutch and Louisiana engineers, urban designers, landscape architects, city planners and soils/hydrology experts to tackle water safety and amenity in New Orleans.

Delta Dialogues

Royal Haskoning DHV has run a series of dialogues in deltas around the world. Delta Alliance has participated in some of these dialogues.

Deltas2010- World Delta Dialogues

Delta Alliance has actively participated in the preparation of this conference held in New Orleans in October 2010 and the Delta Alliance launch officer and the California Wing coordinator have acted as charette leaders for a number of workshop sessions.

American Planning Association (APA)

The American Planning Association (40.000 members) has indicated to become a member of Delta Alliance and is willing to give publicity to the Delta Alliance activities. Representatives of the APA attended the Delta Alliance sessions in Rotterdam and Shanghai. Also a representative of Delta Alliance attended the Dutch Dialogues 3 and the APA national conference from April 10-13, 2010, which focused on Delta Urbanism in New Orleans.

Relevant cooperation initiatives not focused on deltas

Knowledge Hubs of the Asia-Pacific Water Forum

Discussion with ADB is on-going on the links between the Knowledge Hubs and Delta Alliance.

Cooperative Program on Water and Climate (CPWC)

In several aspects and countries Delta Alliance and CPWC are working closely together. The Bandung workshop has been jointly organized with CPWC and other partners. CPWC contributes also to the Jakarta Climate Change Adaptation Tools project.

Partners for Water

Water Mondiaal initiated projects will regularly be tendered through Partners for Water. They could also be a partner for the funding of Delta Alliance initiated projects. The Mekong Delta assessments, executed by Deltares, Alterra and Infram, under the umbrella of Delta Alliance, have been tendered and are administered by Partners for Water.

Type	Year	Project	Reference
Book (public site)	2010	HSINT01B	Innovative Solutions for the Delta, Innovative ideas for deltas cities to respond to climate change challenges in the complex urban environment (2010). DeltaCompetition 2010. Published by Royal Haskoning, in cooperation with Delta Alliance.
Book (public site)	2012	HSINT01B	Delta Alliance Young Professionals Award (2012). Innovative solutions for delta challenges worldwide, A contribution to the Rio+20 theme 'Green economy in the context of sustainable development and poverty eradication'.
Brochure (public site)	2010	HSINT01A	Slingerland, C. (2010). For the resilience of river deltas worldwide.
Brochure (public site)	2011	HSINT01B	Delta Alliance (2011). Delta Alliance brochure 2011: For the resilience of deltas worldwide.
Brochure (public site)	2012	HSINT01B	Flyer Delta Alliance (2012). First Call Delta Alliance Young Professional Award.
Final Project Report (public site)	2010	HSINT01A	Driel, W. van, Slingerland, C. en K. Trajan (2010). Launching Delta Alliance: First Phase Final Report. KfC report number KfC 21/2010. ISBN 978-94-90070-20-5.
Final Project Report (public site)	2011	HSINT01B	Driel, W. van & Block, D. de (2011). Launching Delta Alliance, final report of phase 2, KfC report number 031/2010, ISBN 978-94-90070-37-3.
Media (public site)	2010	2010 Delta Rdam	www.duurzaamgebouwd.nl (2010). Ondertekening van Delta Alliance, 1 oktober.
Media (public site)	2011	HSINT01B	www.changemagazine.nl (2011). Delta Alliance vergelijkt 10 delta's voor meer duurzame ontwikkeling, 21 februari.
Poster (public site)	2009	HSINT01A	Slingerland, Kees (2009). Delta Alliance.
Presentation (intranet)	2011	HSINT02A	Budiyono, Y. (2011). Flood risk assessment under future climate and socio-economic change in Jakarta. Delta Alliance/LIPI workshop, 18 January 2011, Jakarta, Indonesia.
Presentation (intranet)	2011	HSINT02A	Wijayanti, P. (2011). Optimal climate adaptation policies under uncertainty and irreversibility. Delta Alliance/LIPI workshop, 18 January 2011, Jakarta, Indonesia.
Presentation (public site)	2009	2009 COP15	John Matthews (2009). A brief intro to World Estuary Alliance, presented at the Holland Climate House on December 16, COP15, Copenhagen (WEA).
Presentation (public site)	2009	2009 COP15	Kees Slingerland (2009). Towards an International Delta Alliance, presented at the Holland Climate House on December 16, COP15, Copenhagen (Wageningen University, Alterra).
Presentation (public site)	2009	2009 COP15	Peter Wijsman (2009). Delta Alliance in California, presented at the Holland Climate House on December 16, COP15, Copenhagen (Arcadis).
Presentation (public site)	2010	2010 Delta Rdam	Delta Session DS 9: The lowland deltas of Indonesia. Lowland development in practice: The Mahakam Delta, East Kalimantan and lessons for Indonesia, Jan Sopaheluwakan, Coordinator Delta Alliance International Indonesia Wing (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Delta Alliance Cooperation: Showcasing Inter-Delta Cooperation. WISDOM: Water related Information System for the Mekong Delta; 2007 - 2013, Claudia Kuenzer, German Aerospace Centre DLR (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Turbulent time towards a resilient delta: the Ciliwung Delta, Jakarta, Indonesia, Jan Sopaheluwakan, Delta Alliance Indonesia Wing (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. The Rhine-Meuse delta, the Netherlands, Cees van de Guchte & Bart Makaske, Deltares & Alterra, the Netherlands (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.

Type	Year	Project	Reference
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. California: San Francisco Bay and the Sacramento-San Joaquin Delta, Peter Wijsman, Will Travis, Paul Bunje, Mike Urkov, Delta Alliance (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Plenary DA Launch. Speech by Tineke Huizinga, Minister of the Environment and Spatial Planning, Delta Alliance (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Mississippi River Delta Study: Reviving the Dynamics of the Landscape, Anthony Fontenot & Jakob Rosenzweig (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Why an International Delta Alliance? Rob Schoonman, Ministry of Housing, Spatial Planning and the Environment, the Netherlands (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Delta Alliance Corporation: Showcasing Inter-Delta Cooperation. The Delta Research And Global Observation Network, Dr. Scott Wilson, USGS National Wetlands Research Center - DRAGON, USA (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation. Session DP C 6.1: Delta Alliance electronic board room session. Description of the Yangtze Delta, Wenwei Ren, WWF-Shanghai Office (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Delta Alliance Corporation: Showcasing Inter-Delta Cooperation. The Dutch Dialogues in New Orleans, David Waggonner, Waggonner and Ball Architects New Orleans, USA (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	2010 Delta Rdam	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Mekong Delta, The current and future states, Prof.dr. Le Quang Minh, Wageningen University & Vietnam National University-Ho Chi Minh City, Vietnam (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01A	Slingerland, Kees (2010). Delta Alliance International, presented at the Delta Alliance Dutch Wing - Kick off on April 22, 2010 in Rotterdam.
Presentation (public site)	2010	HSINT01A	Silvis, Lennart (2010). Dutch Delta Networks, presented at the Delta Alliance Dutch Wing - Kick off on April 22, 2010 in Rotterdam.
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation. Session DP C 6.1: Delta Alliance electronic board room session. Description of the Yangtze Delta, Wenwei Ren, WWF-Shanghai Office (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Delta Session DS 9: The lowland deltas of Indonesia. Lowland development in practice: The Mahakam Delta, East Kalimantan and lessons for Indonesia, Jan Sopaheluwakan, Coordinator Delta Alliance International Indonesia Wing (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Why an International Delta Alliance? Rob Schoonman, Ministry of Housing, Spatial Planning and the Environment, the Netherlands (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Turbulent time towards a resilient delta: the Ciliwung Delta, Jakarta, Indonesia, Jan Sopaheluwakan, Delta Alliance Indonesia Wing (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Plenary DA Launch. Speech by Tineke Huizinga, Minister of the Environment and Spatial Planning, Delta Alliance (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Delta Alliance Corporation: Showcasing Inter-Delta Cooperation. The Delta Research And Global Observation Network, Dr. Scott Wilson, USGS National Wetlands Research Center - DRAGON, USA (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.

Type	Year	Project	Reference
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Mississippi River Delta Study: Reviving the Dynamics of the Landscape, Anthony Fontenot & Jakob Rosenzweig (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. Mekong Delta, The current and future states, Prof.dr. Le Quang Minh, Wageningen University & Vietnam National University-Ho Chi Minh City, Vietnam (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. California: San Francisco Bay and the Sacramento-San Joaquin Delta, Peter Wijsman, Will Travis, Paul Bunje, Mike Urkov, Delta Alliance (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Delta Alliance Corporation: Showcasing Inter-Delta Cooperation. The Dutch Dialogues in New Orleans, David Waggonner, Waggonner and Ball Architects New Orleans, USA (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session. The Rhine-Meuse delta, the Netherlands, Cees van de Guchte & Bart Makaske, Deltares & Alterra, the Netherlands (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2010	HSINT01B	Delta Alliance Corporation: Showcasing Inter-Delta Cooperation. WISDOM: Water related Information System for the Mekong Delta; 2007 - 2013, Claudia Kuenzer, German Aerospace Centre DLR (2010). Presented at the international conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Presentation (public site)	2011	HSINT02	Ward, P.J. and Marfai, M.A. (2011). Jakarta Climate Adaptation Tools project 1 overview. Delta Alliance/LIPI workshop, 18 January 2011, Jakarta, Indonesia.
Presentation (public site)	2011	HSINT02A	Ward, P.J. and Marfai, M.A. (2011). Jakarta Climate Adaptation Tools project 1 overview. Delta Alliance/LIPI workshop, 18 January 2011, Jakarta, Indonesia.
Proceedings (public site)	2010	HSINT01B	Scoping workshop Delta Alliance Indonesia Wing (2010). Jakarta, 23 August 2010.
Report (intranet)	2010	HSINT01B	Identification mission K2K, Water Mondiaal and Delta Alliance reconnaissance visit (2010). Dhaka, Bangladesh, 20 - 24 June 2010, Mission Report (draft).
Report (public site)	2010	2010 Delta Rdam	Meeting report, Delta Alliance Cooperation: Showcasing Inter-Delta Cooperation (2010). International conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Report (public site)	2010	2010 Delta Rdam	Meeting report, Plenary Launch Delta Alliance (2010). International conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Report (public site)	2010	2010 Delta Rdam	Meeting report, Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session (2010). International conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Report (public site)	2010	HSINT01A	Short Proceedings of the Delta Alliance Dutch Wing - Kick off workshop. Rotterdam, 22 April 2010.
Report (public site)	2010	HSINT01B	Meeting report, Delta Alliance Cooperation: Showcasing Inter-Delta Cooperation (2010). International conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Report (public site)	2010	HSINT01B	Report kick-off workshop Delta Alliance Brazilian Wing (2010). Brasilia, 30 August 2010.
Report (public site)	2010	HSINT01B	Delta Alliance Scoping Workshop Vietnam Wings (2010). Vietnam National University in Ho Chi Minh City, 20 July 2010.
Report (public site)	2010	HSINT01B	Driel, W. van (2010). Meeting report of the Delta Alliance Advisory Board, October 1, 2010.
Report (public site)	2010	HSINT01B	Trajan, K. and Driel, W. van (2010). Strategic Framework Delta Alliance.
Report (public site)	2010	HSINT01B	Bucx, T., M. Marchand, A. Makaske, C. van de Guchte (2010). Comparative assessment of the vulnerability and resilience of 10 deltas – synthesis report. Delta Alliance report number 1. Delta Alliance International, Delft-Wageningen, The Netherlands.
Report (public site)	2011	HSINT01B	Wim van Driel, Frank Dekker (Delta Alliance), Bart Geenen (WWF) (2011). High Potential in the Lower Zambezi, A way forward to sustainable development, Wageningen, October 2011.

Type	Year	Project	Reference
Report (public site)	2010	HSINT01B	Meeting report, Deltas in Practice Theme 6: Cooperation, Session DP C 6.1: Delta Alliance electronic board room session (2010). International conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Report (public site)	2011	HSINT01B	Ward, P. (2011). Jakarta Climate Adaptation Tools- a research program of the Delta Alliance. Outcomes program definition & agenda for the research.
Report (public site)	2010	HSINT01B	Wolters, W. (2010). Short Report on the Delta Alliance (DA) mission to Egypt, 29-30 November 2010.
Report (public site)	2013	HSINT01B	M. Marchand, T. Bucx, B. Makaske, C. van de Guchte & W. van Driel (2012). Enabling Delta Life - What makes managing land and water in deltas different? Discussion paper. Delta Alliance and GWP. www.gwp.org / www.delta-alliance.org
Report (public site)	2010	HSINT01B	Bucx, T., M. Marchand, A. Makaske, C. van de Guchte (2010). Comparative assessment of the vulnerability and resilience of 10 deltas – synthesis report (work document). Delta Alliance report number 1. Delta Alliance International, Delft-Wageningen, The Netherlands.
Report (public site)	2010	HSINT01B	Meeting report, Plenary Launch Delta Alliance (2010). International conference Deltas in Times of Climate Change, 29 September - 1 October, Rotterdam, the Netherlands.
Scientific Paper (public site)	2010	HSINT01B	Bucx, T., Marchand, M., Makaske, B., van de Guchte, C. (2010). Comparative assessment of the vulnerability and resilience of 10 deltas- synthesis report. Delta Alliance report number 1. Delta Alliance International, Delft-Wageningen, The Netherlands.

Annex 6 List of developed project proposals

Wing	Organization/ person	Project title	Other deltas to be involved	Total budget
Mississippi (USA)	University of Louisiana at Lafayette (Robert R. Twilley)	Restoration Manual for the Mississippi River Delta: Prototype for Developing Coastal Sustainability Studios	California Bay Delta; the Netherlands	\$ 300,000
Rhine-Meuse (The Netherlands)	TU-Delft (Han Meyer)	Mapping Urban Deltas	Mississippi delta, Mekong delta, Pearl River delta, Parana delta	€ 80 000
Yangtze (China)	WWF China (Wenwei Ren)	Wetland wise use and biodiversity conservation in Chinese major deltas	Yellow River delta, Pearl River delta	€ 400 000
Nile (Egypt)	Nile Research institute, National Water Research Center (Medhat Aziz)	Study of the impacts of increasing inland navigation in the Nile Delta		€ 100 000
Nile (Egypt)	Drainage Research Institute, National Water Research Center (Alaa Abdel- Motaleb)	Assessment of the vulnerability of the irrigation and drainage infrastructures to the expected sea level rise and adaptation measures		€ 1 500 000
Nile (Egypt)	Drainage Research Institute, National Water Research Center (Alaa Abdel-Motaleb)	Assessment of land degradation due to climate change impact using RS&GIS in the north of the Nile delta, Egypt		€ 1 200 000
Ganges-Brahmaputra (Bangladesh)	Institute of Water Modelling (Zahirul Haque Khan)	Impacts of Climate Change on the Morphology of the Coastal Region of Bangladesh, Adaptation Measures and Sustainable Land Reclamation	Ganges- Brahmaputra- Meghna	\$ 13,260,000
Ganges-Brahmaputra (Bangladesh)	Institute of Water Modelling (Zahirul Haque Khan)	Impact of Climate Change on Water Logging and Proper Adaptation Measures in the Ganges Delta Region of Bangladesh	Ganges- Brahmaputra- Meghna	BDT 110,000,000
Brazil (Pantanal)	EMBRAPA Pantanal (Carlos Roberto Padovani)	A common decision support system for delta countries		€ 100 000
Parana (Argentina)	Centro de Estudios en Gambio Global (Verónica Zagare)	A framework for policy response and adaptation in the Parana Delta (Argentina)		€ 50 000
Parana (Argentina)	Instituto Superior de Urbanismo, University of Buenos Aires (Verónica Zagare)	Map of urban and environmental risk in the Parana Delta		€ 60 000
Parana (Argentina)	TU Delft (Verónica Zagare)	Deltas under changing conditions: planning strategies for urban growth	Rio de la Plata estuarine system, Rhine-Meuse-Scheldt delta	€ 22 000
California Bay (USA)	ARCADIS US (Peter Wijsman)	San Francisco Bay sub-regional climate change adaptation planning		\$ 750,000
Pantanal (Brazil)	EMBRAPA Pantanal (Débora Calheiros)	Preliminary Evaluation of the Influence of hydroelectric Power Dams in the hydrodynamic and eco-hydrological Functioning of the Rivers that form the Pantanal Wetland in the Upper Paraguay River Basin (Brazil)	Okavango delta	€ 500 000

Wing	Organization/ person	Project title	Other deltas to be involved	Total budget
Nile (Egypt)	Coastal Research Institute (Ibrahim Abdelmagid Elshinnawy)	Soft Measures for Egypt's Coastal Protection	Mississippi River delta, Rhine- Meuse Delta	
Rhine-Meuse (The Netherlands)	Wageningen University (Maxim Amosov)	Organic village, 100% organic: robust infrastructure	San Francisco Bay and delta, Mississippi delta, Indonesia	€ 500 000
Mahakam (Indonesia)	ICIAR-LIPI (Heru Santoso)	Scenario-based Risk Assessment of Integrated Natural and Social Hazards	Bodri Delta (Semarang), Mekong, Rhine-Meuse	€ 100 000
Rhine-Meuse (The Netherlands)	Wageningen University (Ekko van Ierland)	PhD Hydraulic Changes in Jakarta Urban Area	Ciliwung	

Delta Alliance
www.delta-alliance.org

Delta Alliance is an international knowledge-driven network organization with the mission of improving the resilience of the world's deltas. With increasing pressure from population growth, industrialization and a changing climate, it is more important than ever that these valuable and vulnerable locations increase their resilience to changing conditions. Delta Alliance brings people together who live and work in deltas. They can benefit from each other's experience and expertise and as such contribute to an increased resilience of their delta region.

Delta Alliance has ten network wings where activities are focused: California Bay (USA), Ciliwung and Mahakam (Indonesia), Mekong (Vietnam), Rhine-Meuse (the Netherlands), Nile (Egypt), Pantanal (Brazil), Ganges-Brahmaputra (Bangladesh), Mississippi (USA), Yangtze (China) and Parana (Argentina). Additional network wings will soon be included in Delta Alliance to further benefit from the wealth of information available in these deltas.