

# Improving International Co-operation Projects

How to match real-world problems with solutions in Bangladesh

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# IMPROVING INTERNATIONAL COOPERATION PROJECTS

## HOW TO MATCH REAL-WORLD PROBLEMS WITH SOLUTIONS IN BANGLADESH

by

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in partial fulfillment of the requirements for the degree of

**Master of Science**  
in Engineering and Policy Analysis

at the Delft University of Technology,  
to be defended publicly on Tuesday August 24, 2018.

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## PREFACE

The development of this thesis came from a mixture of people's perceived difficulties and my interest in trying to mediate when there are - sometimes big - problems. I hope this work has helped to it. To do it, work came from the effort of not just me, but the people near me, that helped me beginning and finalizing this. Thanks to them.

First, my committee, to Leon Hermans, Martin de Jong and Chris Seijger, who gave me very insightful, motivating and reflective comments always to make this a better and useful work.

To the financial support to make this happen, from the NWO project *Strengthening strategic delta planning processes in Bangladesh, the Netherlands, Vietnam and beyond*, the *TU Delft University Fund* and *Delft Global Initiative*. Thanks to Wim Douven to support this initiative with resources and time shared at IHE.

To the people who helped building a strong network of contacts to make this research more grounded. Special thanks to Shahnoor Hasan from IHE Delft Institute for Water Education, Dilip Datta from Khulna University and to Malik Fida Khan at CEGIS in Bangladesh. Through them, a big thanks to all the welcoming people there who were very open to share their insights, perceptions and ideas of the ongoing projects in their country. It was vital for the culmination of this work.

To all the people that somehow contributed with ideas, knowledge or contacts to extend the scope and applicability of this work.

To my friends, especially the near ones during the thesis period, who were always encouraging me to do the best, but especially because they were also a strong emotional support, always. They were my second family here.

Finally, to my family in Colombia, who have seen the efforts from abroad and know how challenging it has been to deal with difficulties on the distance.

There is a special thanks to Juanse, my brother, who has been always there, and now was my turn to receive his unconditional support.

*Juan David Patiño Guerra*  
*Delft, August 2018*



## EXECUTIVE SUMMARY

The world is becoming a growing interconnected network of countries with different types of relationships that go from economic development relationships to humanitarian aid, in topics like, for instance, climate change adaptation. The complexity of the international relationships can lay many times in a gray area where there is, on the one hand, international cooperation between donor and beneficiary countries that would like to help to develop local capacities, but, on the other hand, if there is chance, develop new business opportunities that favour the donor country. The problem of this is, thus, that there is no intermediate point explored where the actual local capacities are developed - in a beneficiary country - *and* the international economic dynamic interests from donor countries are taken into account, to include their solutions or knowledge. This lack of consideration of real-world game of interests portrays the methodologies developed so far in an idealistic way, either in a local - problem driven perspective, or in a very donor-supply oriented one, which leaves a gap by not including the reality of the international pressure in international cooperation. This is of interest not only to beneficiary countries to develop and hold better their policies, but also to the donors, who can develop better long-lasting relationships that could develop into better future policies. To try to find a way that joins problem and solution driven approaches, the research question proposed here is:

*How to match problem and solution driven approaches to improve policy implementation and acceptance?*

To address this, two case studies are explored in this research: The Bangladesh Delta Plan 2100 (BDP2100), a rather more donor-driven approach where the Netherlands tries to "sell" the adaptive delta management approach, and a set of Coastal Management initiatives, which have been developed towards a rather problem-driven approach called Tidal River Management (TRM). Apart from these two case studies, two frameworks, one from the problem driven side, called *Problem Driven Iterative Adaptation - PDIA* and one more solution / donor driven, *Institutional Transplantation - IT* framework, will evaluate the two case studies here.

With these case studies analyzed from the two different perspectives (i.e. frameworks), advantages and disadvantages of both frameworks are taken, to see what factors from problem and solution driven approaches are useful and even which ones could be reinforced. After finding this, a joint approach is developed from PDIA and IT as frameworks advantages and gaps, as well as from the BDP2100 and TRM case studies insights. This approach is named the Cooperative Development Framework (CDF), which tries to join factors from problem and solution driven approaches in a single methodology. Figure 6.4 shows the proposed methodology synthesized.

As part of the results obtained, the overview shows the high tendency of BDP2100 to be a solution driven approach (at least as seen from the Institutional Transplantation Framework), and the high affinity of TRM to be a problem driven approach (although not completely from the PDIA overview). Some factors were recurrent and have a higher relevance

from the local's and donor's perspective: "Aiming to solve particular problems in particular local contexts" and the "Creation of an authorizing environment that encourages experimentation" which resonate between the problem (PDIA) and solution (IT) perspectives.

Another key element that emerged and is critical in the CDF proposed is about the iteration process. Here, the foreign solutions are included *after* the learning process of the local people in the beneficiary country, where capacity development gets a maximum priority. This, and also changing the perspective of how the donors approach the international cooperation, are some of the key changes required from both sides. The donors should, in the approach proposed here, change the framing of their position from a strong one that knows "everything" on a specific field, to one that works more as *capacity builders*, where the development goes from bottom up and the international solutions go through the identification of local agents / institutions, the real problem owners.

There are many challenges that remain when trying to solve this 'opposition' between problem and solution driven interests. First, the framework proposed has to be tested and get data from other environments outside the International community - Bangladeshi relationship. Also, a broader overview of other methodologies could enrich the factors that are part of the Cooperative Development Framework proposed here, apart from the Institutional Transplantation and Problem Driven Iterative Adaptation frameworks.



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# 1

## INTRODUCTION

Nowadays, there is worldwide interest in recommending policies that can tackle or help to adapt to climate change. Such policies range from setting specific industrial limits to implementing ‘hard technologies’ that prevent the effects of climate change. Usually, there is a propensity to import technologies and policies from economically developed countries to developing ones, in part due to economic incentives. Such policies, however, tend to be solution-driven instead of problem-driven, where a donor country gives ‘advice’ or ‘knowledge’ to a recipient or beneficiary country (Eyben 2005; Ika and Hodgson 2014; Pritchett and Woolcock 2004).

The solution-driven options just mentioned are typically suggested by the donor country, where companies and organizations with expertise in specific fields can put their products or knowledge to use abroad, either for direct commercial gains or as part of a broader societal agenda. This way of working is a common global trend nowadays, like USAID in African countries such as Rwanda and Somalia, encouraging trade on mining and food industries. Nonetheless, evidence shows that these approaches are not sustainable in the long term (P. DeLeon and L. DeLeon 2002; Eyben 2005; Pritchett and Woolcock 2004), particularly to the beneficiary side, where solutions are often implemented without taking into account their real problems, context or even exploring local solutions.

In this dilemma of implementing solutions vs. finding (real) problems, a gap is found on how to make both viable in the real world. On one hand, experience shows how ineffective a policy can be if it is not problem-driven and adapted to a local context (Pritchett, Woolcock, and Matt Andrews 2013; Kroesen, Jong, and Waaub 2007). Yet, on the other hand supply-side bias and economic interests are a reality in the donor – beneficiary relationships worldwide. Such dilemma is critical when thinking on long term sustainability of policies, especially those regarding climate change. The following research proposal wants to explore how to match both better, solution and problem-driven approaches, in a way that works better for donors and beneficiaries.

In order to understand how to solve the dilemma between solution vs. problem-driven situations, two case studies in delta management projects will be analyzed. Specifically, the Bangladesh Delta Plan 2100 (BDP2100) will be the base of the research. The plan is developed by the Dutch – Bangladeshi BanDuDeltas consortium, which proposes a set of projects and initiatives that aim to protect Bangladesh from climate change and build resilience for the future. Also, the Coastal Management initiatives in Bangladesh, especially

Tidal River Management will be explored to understand better the advantages and challenges of problem-driven situations.

The structure of the rest of this chapter is as follows: first, a problem description is provided in more detail, including a brief literature overview. A research question is then presented with the research approach and sub-questions. Finally the research flow diagram and structure of the rest of this document are presented.

## 1.1. PROBLEM DEFINITION AND RESEARCH PROPOSAL

This section presents how current approaches deal with the duality of problem vs solution driven according to literature, pointing their difficulties, limitations and importance of actors coalitions. At the end of this section the research proposal and research question are presented.

### 1.1.1. WHY INTERNATIONAL COOPERATION AT ALL? THE ROLE OF POLICY TRANSFER

International cooperation is understood as the way in which countries collaborate with each other in order to reach a common goal, usually in a global perspective. Examples of such are international economic development or climate change adaptation, which are part now of the sustainable development goals (United Nations 2017). This, however, usually implies knowledge or policies transfer between countries, many times also called ‘lessons learned from abroad’ (D. P. Dolowitz and Marsh 2000).

The concept of Policy Transfer has been increasingly highlighted since the work done by (D. Dolowitz and Marsh 1996; D. P. Dolowitz and Marsh 2000). The basic concept of policy transfer implies that approaches to solve problems which work in one country might also work in another with some modifications. The goal - and advantage - of doing such policy transfer is to be able to ‘effectively’ share experiences and learn from the failure of others.

The effects of policies transfer, however, have been re-evaluated and many times criticized, as it does not take into consideration many of the actual realities of the demand-side, such as the beneficiary local institutional characteristics and culture (Dichter 2003; Easterly 2017; Rappleye and Un 2018). Also, a rather big challenge in Policy Transfer adequacy relies on the power structures in the local region, which have a big part on the policy transfer decisions (Jong, Waaub, and Kroesen 2007; Kroesen, Jong, and Waaub 2007).

As can be inferred from the previous descriptions, there are at least two different sides of the policy transfer process: the ‘supply’ of such policies by donor countries, where the knowledge is exported, and the ‘demand’ side – beneficiary countries which import such knowledge. These two sides have different interests and motivations to actually work together, and eventually join in a policy transfer process. The challenge is to determine if this match is actually happening, or at least, if it is happening as expected.

### 1.1.2. DONOR COUNTRIES: SUPPLY SIDE OF THE INTERNATIONAL COOPERATION

When looking at the supply side, or the solution driven approaches, we can see many present in cooperation agreements nowadays. Cases of expertise export from the Netherlands regarding water management to Indonesia or Bangladesh are examples of how the technical and institutional solutions are provided to beneficiary countries (Dutch Water

Sectors 2018). Also, programs such as USAID, where assistance is provided to many countries including Rwanda or Somalia, show how there are initiatives proposed with clearly economic and trade interests (USAID 2017). China is doing similar work, less focused on 'aid' but more on the loans for productive activities (Bräutigam 2011). In these cases, solutions are given by donor countries (e.g. The Netherlands, United States, China) to create mutual benefit to both countries, however, in most of the cases it also implies that the donor country exports goods, services or makes investments to the beneficiary country. These kind of approaches tend to be suggested as 'practical' in the eyes of the beneficiary, who sees the donor country many times as a quick solution, and a tangible example that things can work differently.

When this supply 'bias' happens, the main difficulty is that it might end up being a 'solution looking for a problem', instead of the other way around (Molle and Hoanh 2011; Pritchett and Woolcock 2004; Pritchett, Woolcock, and Matt Andrews 2013). This tends to happen often, as the donor countries encourage to develop their own agendas and interests (Matt Andrews, Woolcock, and Pritchett 2017; Lewis 2003; Maizels and Nissanke 1984). This might be a normal and accepted behavior in open markets, however, there are many instances where these projects imply social development of poor regions, and the effectiveness of a policy / project is critical for the livelihoods of locals. By doing so, a highly solution driven approach may end up being a waste of effort and money in poor regions, yet an efficient way to mobilize resources at a large scale.

### 1.1.3. BENEFICIARY COUNTRIES: DEMAND SIDE OF THE INTERNATIONAL CO-OPERATION

The problem-driven approach, or in general approaches that advocate for the demand side of policy transfer, propose that problems should be solved locally, where a strong focus is put in the definition of the problem, following that "a problem well stated is a problem half-solved" (Charles Kettering). These approaches have been discussed in the academia even since the 60's by the approach of "Muddling Through" (Lindblom 1959; Lindblom 1979). Also Leon M. Hermans 2010 points the importance of focusing on the problem diagnosis when sharing international experiences, as well as (Enserink et al. 2010) points the fundamental importance of problem definition from a broader policy development perspective.

A rather recent approach for problem driven methodologies is the Problem Driven Iterative Adaptation (PDIA). This methodology tries to diverge with the common approaches by focusing in four main steps: 1st, tries to solve local defined problems, instead of best practices from outside, 2nd, advocates for 'authorizing environments' to make experimentations. 3. Works with feedback loops that encourage quick learning, and 4th, active engagement of large sets of agents to ensure local viability (Matt Andrews, Pritchett, and Woolcock 2013).

In general, the problem-driven methodologies try to be pragmatic and very focused on the local level. However, when dealing with international interests, complications may arise and is not yet clear how to apply such a problem-driven approach when also donor countries or organizations are around to "satisfy" their own interests or agendas.

There are, however, some difficulties regarding this problem-driven approach. Although it is certainly coherent with how things are ought to be, solely demand-side focus is not very applicable to scenarios where intermediate interest are in between, such as modern international development and business interests in general (Borensztein, Gregorio, and Lee 1998;

Unsworth 2009). This lack of involvement from ‘outsiders’ makes it difficult to apply these frameworks in a broader and perhaps more effective way.

#### 1.1.4. MATCHING BOTH SIDES?: ACTORS COALITIONS AND STAKEHOLDERS INVOLVEMENT

An approach that can mediate between solution-driven and problem-driven is the stakeholders involvement (Glicken 2000; Irvin and Stansbury 2004; Reed 2008). This concept suggests that involving all stakeholders of a project will ensure its success. Although this approach has many variations and states that all important stakeholders should be included from the very beginning, many times this does not happen in reality, or if it happens, it means that they are barely informed regarding what the project is about. More *socialization* than actual *participation*.

For the specifics of Policy Transfer, similar conclusions arise as for many ‘normal’ projects: the stakeholders involvement is critical in a project development; however, the interesting part is how to engage them in such a way that they by themselves share common conclusions about the project (Sam, Coulon, and Prpich 2017). There is a thin line from which practicality can turn into an everlasting list of wishes.

In order to explore further the challenges in policy transfer and policy development in general, some frameworks help to better understand the involvement of actors and actors coalitions in decision making.

#### 1.1.5. RESEARCH QUESTION

The difficulties stated previously in the demand and supply side, as well as the actors role in Policy Transfer processes, come when development of plans don’t really match both sides, specially the real needs of the beneficiary countries, and not just some politically relevant groups. An appropriate match between supply and demand in international cooperation can improve the effectiveness of projects or policies. Examples of such mismatch can be seen in the Khulna-Jessore Drainage Rehabilitation Project in Bangladesh funded by the Asian Development Bank (ADB 2007b), the Development and Innovation Grant in Cambodia (Rappleye and Un 2018), or the case of capabilities reforms in Malawi (Bridges and Woolcock 2017). A gap is pointed here as the mismatch or non-optimal match between supply of solutions and actual demand of them.

In order to fill the knowledge gap, the challenge would be on how policy implementation can be combined from both sides, the problem-driven and solution-driven, to take the best of both approaches.

More specifically, the research question is:

***How to match problem and solution driven approaches to improve policy implementation and acceptance?***

## 1.2. RESEARCH APPROACH AND SUB-QUESTIONS

In order to answer the research question proposed in the previous chapter, the following set of sub-questions are developed:

1. What are the specific characteristics that problem-driven and solution-driven approaches offer to help (or limit) policy transfer?



2. What and why are the benefits and challenges of a *donor-driven* project as perceived by donor and beneficiary actors?
3. What and why are the benefits and challenges of a *problem-driven* project as perceived by donor and beneficiary actors?
4. How can solution and problem-driven approaches be articulated from both donor and beneficiary countries' strengths and weaknesses?

In order to solve the main research question and sub-questions, case studies related to these kinds of dilemmas will be explored.

### 1.2.1. CASE STUDIES: BANGLADESH DELTA PLAN 2100 AND TIDAL RIVER MANAGEMENT

In order to dive into the dilemma between problem and solution driven approaches, the case studies selected will be in Bangladesh, analyzed as a beneficiary country. These cases are selected as some of many projects that currently are part of water expertise export from the Netherlands, such as Colombia with Coastal Erosion Master Plans, Mekong Delta Plan in Vietnam, and Integrated Water Resource Management in Myanmar (Dutch Water Sectors 2018).

Currently, the Bangladesh Delta Plan 2100 (BDP2100 or just BDP) is being developed in cooperation between the Netherlands and Bangladesh regarding an integrated view of land and water management for the country as a whole. The Bangladeshi government, as part of its responsibility to protect vulnerable areas, asked the Dutch government and its enterprises to build a Bangladesh Delta Plan that would set the guidelines for the future development and protection in the country. This plan has been developed between 2014 and 2017, and its first draft is currently being discussed (BDP2100 2017a). As the implementation of the proposed plan is about to start, it is a suitable case to analyze from the research question proposed. This case will help to understand how the Dutch approach to propose solutions (many which are of their interest) actually matches the opportunities of locals to derive their own problems and solutions.

On the other hand, the Tidal River Management initiative has been a locally developed strategy to deal with water-logging problems in the south western part of Bangladesh. This project, in contrast to BDP, has started from a very local need and has grown into a more regional approach. In this way, this could be seen as a more "problem driven" case which will be helpful to contrast against the BDP.

### 1.2.2. APPROACH PROPOSED

In order to answer the sub-research questions proposed, information from multiple sources is required. In this section, a proposed task is designated for each research question.

#### 1. WHAT ARE THE SPECIFIC CHARACTERISTICS THAT PROBLEM DRIVEN AND SOLUTION DRIVEN APPROACHES OFFER TO HELP (OR LIMIT) POLICY TRANSFER?

First, desk research must be done in order to refine the contributions of both approaches (problem and solution-driven). The advantages and disadvantages of different approaches in each side and all in between will be considered. The exploration and definition of this frameworks will help to compare further the relatively "good example" of donor-driven case with a problem-driven one.

## 2. WHAT AND WHY ARE THE BENEFITS AND CHALLENGES OF A *donor-driven* PROJECT AS PERCEIVED BY DONOR AND BENEFICIARY ACTORS?

For the BDP2100 project (analyzed as a donor driven case), interviews will be held with Bangladeshi and Dutch organizations related, in order help to determine how the process actually developed, as well as determining the benefit and challenges that are faced by the project. These characteristics of this project will be compared with the "representative" donor and solution driven frameworks selected in the previous step.

## 3. WHAT AND WHY ARE THE BENEFITS AND CHALLENGES OF A *problem-driven* PROJECT AS PERCEIVED BY DONOR AND BENEFICIARY ACTORS?

For the Tidal River Management (TRM) case, also interviews were held to develop the characteristics, features and problems as perceived by Bangladeshi and other international actors. These dynamics will be then compared with the "representative" donor and solution driven frameworks selected.

## 4. HOW CAN SOLUTION AND PROBLEM-DRIVEN APPROACHES BE ARTICULATED FROM BOTH DONOR AND BENEFICIARY COUNTRIES' STRENGTHS AND WEAKNESSES??

This final sub-question will be answered once all the previous sub-questions are explained. A comparison will be made to connect the gaps and similarities identified between the solution and problem driven approaches selected in the TRM and BDP cases. With these gaps and similarities in the frameworks, a proposal of improvement from problem and solution driven approaches is proposed.

### 1.3. STRUCTURE OF THE DOCUMENT

According to the sub-questions proposed, the Research Flow Diagram used is presented in Figure 1.1. Chapter 2 will zoom in the theoretical analyses of problem and solution driven approaches. Chapter 3 will give a general overview of the Bangladeshi context, to dive better in Chapters 4 and 5 to the Bangladesh Delta Plan and Tidal River Management respectively. Chapter 6 will present the joint proposal, Chapter 7 the discussions and Chapter 8 will take conclusions and reflections from the work done.

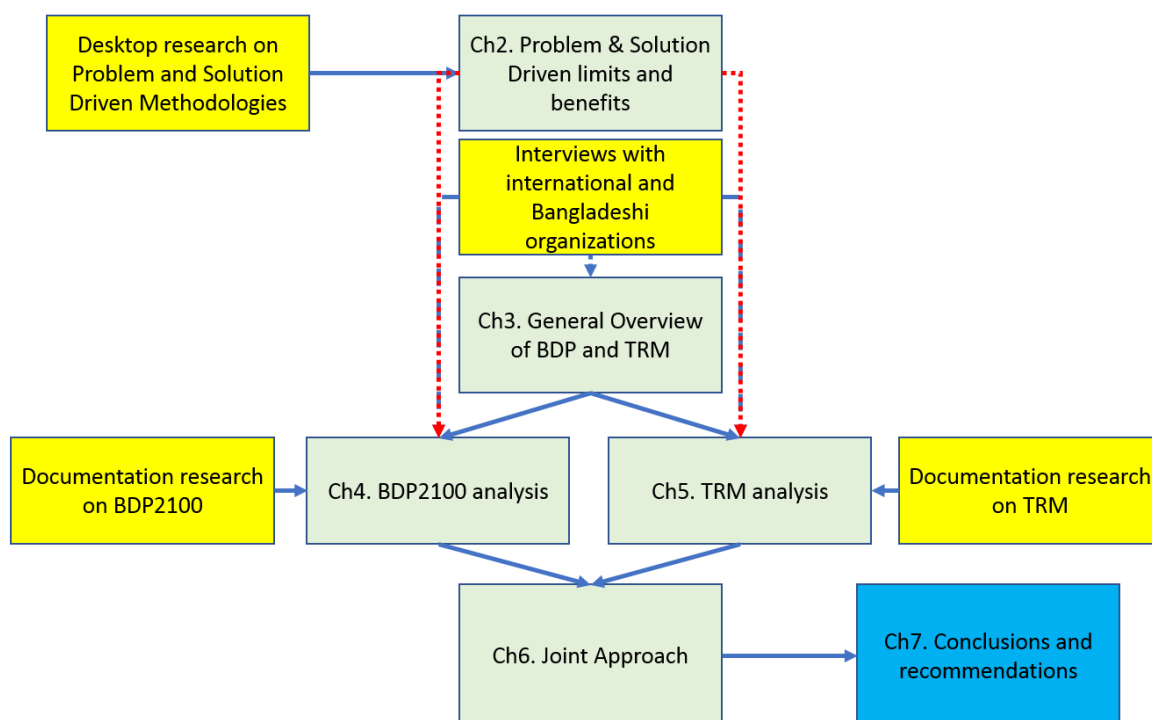


Figure 1.1: Research Flow Diagram of this document. In yellow the activities done are highlighted, in green the Chapters



# 2

## SOLUTION AND PROBLEM DRIVEN APPROACHES: LIMITS AND BENEFITS

In international cooperation, the implementation of projects to solve problems in beneficiary countries has many positions, which go from providing very specific solutions by an outside entity / donor, to actually developing them from the problem owners in beneficiary countries.

The strategies to actually implement these projects has different approaches in international relations, which includes policy transfer ideas or knowledge exchange. As proposed by D. P. Dolowitz and Marsh 2000, these approaches can be better seen as a continuum of policy transfer, which travels from 'coercive transfer' in one extreme, when an outside 'coercion' influences the transfer process of ideas or policies. On the other side is the lesson-drawing, considered with perfect rationality, where a beneficiary country is bringing lessons and experiences from abroad in a - theoretically - voluntary process.

This chapter will explore the options in this continuum, still portraying the difference between the supply and demand side. However, in each one of the solution and problem driven approaches, we will explore some frameworks and cases that fall in between these two sides.

### 2.1. SOLUTION DRIVEN APPROACHES

The first group of approaches that will be considered here are related to the *donor-driven* or *supply side* of the international relation. In this perspective, the focus of the solutions comes from the expertise and knowledge of a donor institution or country, which directs (at least partly) the set of solutions that are considered when solving a problem in a *beneficiary country*.

The supply side, or solution driven approach has different ways in which it is used by institutions and countries to pursue its goals, which are either opening markets, build reputation or indeed provide aid... with some interests behind many times. In order to group them in some main driving principles, the following subsections explore the nature of these supply side approaches.

### 2.1.1. MAINLY BUSINESS APPROACH TO DEVELOPMENT PROJECTS: MONEY AND FREEDOM AS INTERMEDIARIES

One way of supplying solutions is when the *donor* side is actively looking to support specific projects in which it could position donor companies in a foreign market. This manner is pretty much on a plain business side, as it has a very simple way of working: if there is a lack of knowledge, technology or solution, the supply side will provide solutions to it. This example can be seen nowadays in the Chinese case as the main example worldwide and in general from the emerging economies (Woods 2008). With an incredible expansion of their economies, China, Brazil or India, called 'emerging donors' by Woods, come into the international cooperation arena with a different position and as a fresh option: less restrictions, new chances to old debts, more autonomy and less bureaucratic conditions. The tendency is growing and seems to be a challenge to the traditional donor groups in the world (Manning 2006; Walz and Ramachandran 2011a).

The essential point of this approach is that it keeps a non-intrusive perspective in the governmental or organizational cooperation, it works in a plain market-oriented strategy, where just economical conditions of the beneficiary countries hold a big part of the decision making process. An example that shows this better is the case of China in the reconstruction of Nigerian rail networks (Naím 2007). Here, the Nigerian government almost took a loan from the World Bank where conditions were made to give the money under some conditions to tackle corruption. Here the Chinese government came in with a higher amount to loan... and without conditions or bids. Some people call this rough aid due to the 'non-political' character of these loans (Walz and Ramachandran 2011b).

The latter example, among many others, shows how the Chinese and many other emerging economies provide their help not only by giving loans, but also by offering freedom and a non-interfering environment to develop their policies. One big player supplies just what is necessary.

### 2.1.2. PATERNALISTIC APPROACH: THE 'DO IT LIKE THIS' WAY OF THE IMF AND WORLD BANK

If a person wants a loan to buy a house, he/she will probably go to a bank and ask for money. There, the bank will ask for some support and proofs of solvency to give that loan. In a personal level, this would imply handing out credit reports and demonstrate the assets that can support such loan.

This story, though common in a personal level, can be different in international environments. Organizations such as the World Bank and the International Monetary Fund (IMF) are there to offer loans to - mainly - developing economies, pursuing long term investments that help the *beneficiary* country's development in specific fields. The thorny part of these loans come when the conditions are scrutinized. Many times the demands involves lowering tariffs for trade, 'pressuring' this growing economies to open to international markets and, indirectly conditioning the help to the benefit of donor countries as well. This is acutely criticized by Chang and Bond 2007, pointing how the role of international institutions can actually worsen the poverty loop by imposing certain conditions.

An important point to highlight in this approach is the change of perspective compared to the '*Mainly business approach*', where the internal politics of beneficiary countries were not affected or influenced at all. Here though, the way of opening markets is focused on the conditions given to lower tariffs and change internal policies towards a more 'westernized'

way, even in terms that are not predominantly related to the economic capacity to pay the loan, such as imposing western values as straight democratization and individual rights.

### 2.1.3. INFLUENCING POLITICS APPROACH: THE DONOR AS A STRATEGIST

There is a third approach which dives deeper into the political dynamics of a beneficiary country. In this way, more than focusing on the short term market dynamics or directly in economic benefits, a longer term relationship is intended. The work of de Jong and Stoter 2009 portrays this in a set of heuristics that shows the complexity of the process when trying to translate not money, but institutional ideas between contexts (Jong, Lalenis, and Mamadouh 2002).

The framework proposed by de Jong and Stoter, called *Institutional Transplantation*, specifies six heuristics that help understanding the process of institutional transplantation as a strategic process that moves, from a defined institution to a desired (transferred) institution.

1. **Strengthen the position of international proponents of change:** This heuristic proposes that only with a critical amount of local key actors involved and in favor of a change or transplantation, the transplantation can be successful.
2. **Avoid 'xeroxing' (copycat translation) – use multiple models and go from the general to the specific:** Local circumstances make the difference between success or not of transplantation. Adapting and going from general to detailed cases enhances legitimacy, as it shows a coherent direction from purpose to the solution proposed.
3. **Hire and use proactive institutional entrepreneurs:** This characteristic refers to build a strategic alliance with someone from the local context, not just with charisma but also with key connections.
4. **Recognize and use windows of opportunity when they appear:** Recognizing the right moment to act and propose solutions is key in the impact and support of the policy and institutional transfer processes. In this case, emergencies, disasters or media reports can create a 'window of opportunity' to promote the changes.
5. **Account for cultural and administrative differences and similarities:** One of the major barriers to policy and institutional transplantation processes is the cultural differences present. Recognizing and identifying the similarities and differences between contexts, whether they are alike or distinct, especially in which fields.
6. **Use only neutral or positive symbols:** As policy transplantation is usually non-value-neutral, where a positive perception will affect the possibilities of success of the transplantation process, keeping a positive or neutral set of symbols around any initiative is key to get enough support from the local representatives... even if it is not a 'rational' process.

This group of heuristics show that such interaction process can somehow be systematized and that a strategy to get involved in local politics has a profound commitment in international businesses. It is somehow a first step to jump in into the local (of the beneficiary) issues and dynamics.

As will be explored further, these concepts help to understand better the dynamics of the supply side of the 'problem solving', which is, for instance, currently used in Dutch knowledge export (Government of the Netherlands 2013; Hasan, Evers, Zegwaard, et al. [submitted](#); Minkman and van Buuren [in press](#)).

The differences between the approaches previously mentioned in the supply side are hardly crystal clear, but it helps to understand better the underlying strategies used by donor countries to approach international cooperation and foreign markets. This degree of differences in approaches is relevant for the research here, especially as this strategies try to dig in a countries cultural values and local contexts, which will be explored further.

The final goal of all these supply side approaches, from the perspective by which they were grouped here, is to open markets for the solutions offered by donor countries, to any of the extents presented here. The difference comes when looking at the methods to do so, the range goes from *purely market approaches* to *actively influence beneficiary governments* to receive the solutions provided. Yet, it might not be a problem being solved, but rather a solution looking for a problem (Matt Andrews, Pritchett, and Woolcock 2013; Molle and Hoanh 2011).

Although a benefit from all the supply-side approaches is that it actually moves around the high political spheres and can make faster influences there, these approaches, as presented until now, have some difficulties when considering the plain supply or donor driven approaches. First, this kind of approaches can be seen as a bureaucratic move that don't necessarily connect with the local people and neither with their actual problems (Easterly 2002; Pritchett and Woolcock 2004), and even sometimes creates conflicts between donors (Chandy and Kharas 2011). Also, a difficulty that - often - can happen is that although the problems could be solved by a supply driven approach, the development of actual local capacities to hold these solutions, and to actually make a long-lasting change, are also not ensured there by these approaches (Mansuri and V. Rao 2004; Pritchett, Woolcock, and Matthew Andrews 2010).

Next section will zoom into the problem driven side of the international cooperation, to understand better the gaps presented so far and to see the efforts presented from the other side.

## 2.2. PROBLEM DRIVEN APPROACHES

On the other side of the spectrum the problem driven or beneficiary driven approaches focus on the actual problems to be solved. This side shows the other position of international cooperation: the problem owner. Stating this is still a very vague concept. Who is the problem owner, for instance? It ranges from the very individual with a specific problem in a *beneficiary* country (as a farmer for instance), to the whole government of a beneficiary country. Depending on who is the actual problem owner, the perspective and definition of the problem changes (Enserink et al. 2010).

### 2.2.1. LESSON-DRAWING PROCESS

The first and 'less aggressive' method of problem driven approaches is Lesson-drawing. Here the process proposed by Rose 2004 is explained, with the limits, advantages and diffi-



culties of bringing experiences from abroad.

The main objective of Rose when focusing on lesson-drawing are two: first, to recognize that the local context, in policy and knowledge transfer, is an always-present and unavoidable 'challenge', and from that he develops his ideas. Second, that this context is not only important, but that is full of uncertainties, interests and players involved in the lesson-drawing process. With this perspective, Rose offers a change in the policy/ knowledge/ institutional transfer way of understanding, by giving higher relevance to the local power and conditions to import ideas, which are in this work done by the beneficiary countries.

Ten steps are proposed in the lesson-drawing process to determine to what extent can a program from abroad be brought. These are the steps:

1. *Learn the key concepts: what a programme is, and what a lesson is and is not*
2. *Catch the attention of policymakers*
3. *Scan the alternatives and decide where to look for lessons*
4. *Learn by going abroad*
5. *Abstract from what you observe a generalized model of how a foreign programme works*
6. *Turn the model into a lesson fitting your own national context*
7. *Decide whether the lesson should be adopted*
8. *Decide whether the less can be applied*
9. *Simplify the means and ends of a lesson to increase its chances of success*
10. *Evaluate a lesson's outcome prospectively and, if it is adopted, as it evolves over time*

One of the weak points of this process is that it does not take into consideration the dynamics of policy or institutional transfer, especially the pressures of actors with interests around the 'lesson-drawing' process. It implicitly assumes that all the power and will to 'learn from abroad' is locally defined, however, as will be shown later, this is not true for many cases, and actually how outsiders (donors, companies, etc.) play a key role in this game of transferring knowledge.

### **2.2.2. THE LOCAL CONTEXT IS KEY: IMPROVING PROBLEM DEFINITION AND LEARNING PROCESSES IN THE BENEFICIARY SIDE**

Here the paper from Leon M. Hermans 2010 will be explored, taking the lesson-drawing concept previously mentioned, and focusing on the analytic support for local policy makers, at a target site in the first phases of policy transfer. This is already a move towards the demand side of the problem solving process in international cooperation.

The focus that Leon M. Hermans proposes is at the local 'real' requirements, shifting from a 'political dissatisfaction' to a 'real dissatisfaction' in the lesson-drawing or policy transfer concepts. His approach focuses on what is called local "analytical support" to help structuring and defining the problems. Although here the specific structure proposed to give that analytical support is not presented, is important to highlight some points: The

approach gives an increased importance to develop local problems and the ones perceived by decision makers. This is the - new - starting point to actually begin a lesson-drawing process from international experiences. Also, it tries to develop an integrated way to combine the requirements from different sides into a coordinated set of directions for the policy transfer.

In a similar trend as Leon M Hermans, the work proposed by Wolf and Baehler 2017 has a very strong focus on the the learning process in the policy transfer, with a central role of the concepts of abduction and phronesis. In Wolf and Baehler's work, the challenge tackled is the assumption that policy professionals know what and where to look for expertise.

Their proposal focuses on explaining how the search of a learning need appears, which is explained by two concepts: the **abduction** (a flash of insight) and **phronesis** (practical judgment), both caused by observation. The first comes from a thinking process in which new ideas or connections arise, developing new hypotheses to be tested and explored. Here the networks of knowledge help heavily to filter hypotheses and connect concepts. On the second case, the phronesis, is a "combination of knowledge, judgment and taste, together producing a discernment... emerging out of our experience". It is a more comprehensive concept that makes the connection with the problems to develop. In this case, both 'events' in policy learning help creating new stories that resonate with the past and future of the context and the problem to solve.

Although these approaches try to involve more and more the perception of the local people and the agents involved in the learning process, it doesn't take into account yet the externalities of the real world out there: the pressure and mixture of interests around the lesson-drawing and/or policy transfer processes, as this will, in some way, benefit the donor country in the long term.

### 2.2.3. MORE ACTIONS AND LESS IMITATION: PROBLEM DRIVEN ITERATIVE ADAPTATION - PDIA

The final approach from the problem driven side considered here is the Problem Driven Iterative Adaptation approach - abbreviated simply as PDIA. This approach aims to dive into the complexity of the problems found in the 'developing world', with a strong focus on locally nominated and prioritized problems (Matt Andrews, Pritchett, and Woolcock 2017), by and actually recommending -among other things- that outside intervention should be as limited as possible, as this biases the learning process of building real local capacities to solve problems.

The PDIA approach is based in four core principles that portrait it as an almost 'pure' problem or demand driven approach. This methodology tries to deal with the 'wicked hard challenges' of making state capabilities from the bottom (Matt Andrews, Pritchett, and Woolcock 2013), as for the authors *success builds institutions instead of the other way around*. These are the basic points of the approach:

1. **Aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors** - The focus of this first point is to change the idea of *solving problems instead of selling solutions*. Matt Andrews, Pritchett, and Woolcock believe that part of the difficulties of developing state capabilities come from focusing more on the solutions than on the actual problems. This point, as seen, is in high contrast

with the Supply Driven side.

2. **Creation of an “authorizing environment” for decision-making that encourages experimentation and “positive deviance”** - They support the idea that policy and institutional solutions come from a puzzle, in a process that takes time and after matching different possible options.
3. **Active, ongoing, and experiential (and experimental) learning and the iterative feedback of lessons into new solutions** - This is one of the critical aspects of PDIA, where the learning process is highly encouraged and indeed is required to actually see the progress in the situations to be solved.
4. **Engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant — that is, are politically supportable and practically implementable** - The belief that locally relevant solutions to local problems is the best way to solve the problems locally, is supported in the belief also that a network of agents is built over time and that powerful actors will engage by interaction and that diffusion will happen after this.

These principles are very wide in the concept, as it is not really proposing new specific ways to solve development problems, but they, instead, highlight what is important to actually do what *can actually be done* in the current situation. As the PDIA methodology is highly focused on gaining 'momentum' and speed so local actors are involved and learn, the iteration process is encouraged, helping to start from testing small and going to big solutions. A schematic representation of this iterations can be seen in Figure 2.1.

#### CHALLENGES OF THIS METHODOLOGY

PDIA has been showing successful cases in places such as Mozambique, Sri Lanka, Albania and South Africa (Matt Andrews 2015; Building State Capabilities 2018), yet no critical reviews have been found about the PDIA approach (S. Rao 2014), apart from the own authors. Also it has to be taken into account that this is an approach developed from a *donor* perspective, and thus, susceptible to own biases. The work presented here tries to give a different and critical perspective to improve these works, especially in the weak points of the approach perceived from the literature review:

For instance, although the PDIA process shows how it should work in a local level, it can really work if the government allows to do it and a pre-defined agreement is assumed, otherwise the methodology (as conceived now) is hard to implement, especially when there is not a strong institutional structure that can align everybody in the same problem.

Also, the PDIA assumes that - although very complex - an organic growth and escalation of the solutions will happen if there is, first "explicit authorization of the experimental approach", and after this, a combination of good communications and strategic coalitions to grow the relevance of the problem (Matt Andrews, Woolcock, and Pritchett 2017). This might be highly desired, however, the bigger a solution becomes, the more stakeholders must to be involved, and may times the bottom actors, the weak ones most of the times, can't just show that a solution is adequate by their own means and expect an 'understanding' from the political actors. Reality, in this sense, is much more complex than what is presented in the PDIA approach.

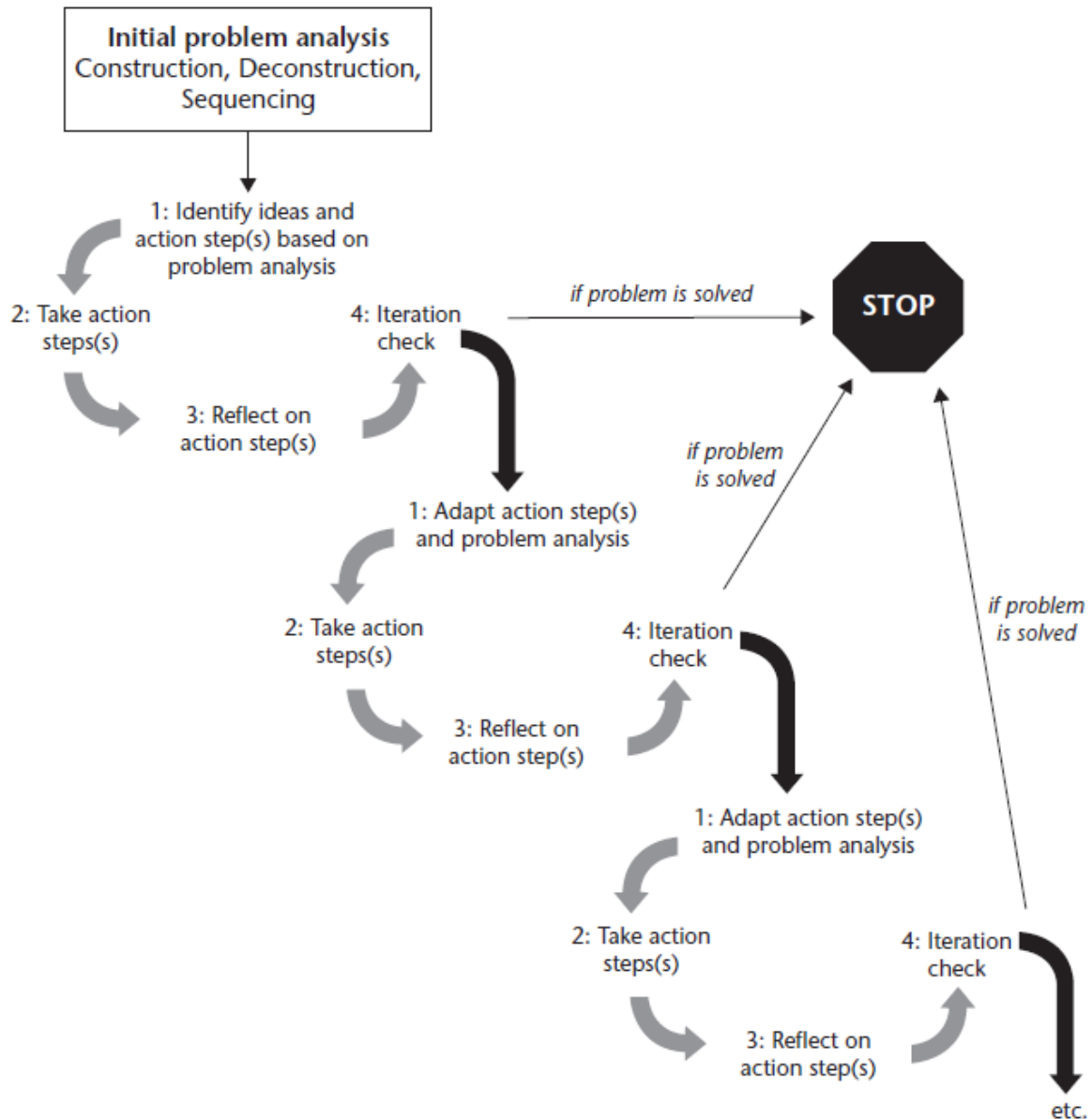


Figure 2.1: Iteration process scaling up from small, tangible and viable products in short time (Matt Andrews, Pritchett, and Woolcock 2017)

Thirdly, and in line with the other Problem Driven approaches presented in this section, the PDIA doesn't really consider the pressure and influences of external interests. It again falls in the assumption of presenting an 'unbiased' scenario, disconnecting the interests of donors or outsiders from the decisions and problems defined in reality.

Finally, *time* is another problem in PDIA. It assumes that iteration will help boosting the learning process and give 'momentum', but anyway there is no way to think that it will be in the right timing with problems requiring adequate solutions in right timing, such as climate change.

## 2.3. IS IT POSSIBLE TO MATCH PROBLEM-DRIVEN AND SOLUTION-DRIVEN SIDES?

Once the whole range from solution to problem driven approaches in international cooperation projects has been explored, a big question remains: is there a way in which the approaches to these problems can be improved or combined? How can it work better in real life taking the advantages from each side, the problem and solution driven?. Both extremes have their strengths and flaws, yet each one focuses on how to approach the international cooperation in specific ways. For instance, for solution driven approaches, the fact that they tend to favour the supply side (or donor countries), makes it difficult to conceive the problem definition, as usually this is already pre-defined by donor countries and favouring some solutions in advance. On the other hand, the problem driven approach seems to be floating in an imaginary world sometimes, where the time required to acknowledge and learn is isolated from the political and economical interests that are present within countries and in international relations.

In order to have a common floor in which both sides can be improved, two case studies will be analyzed in Bangladesh which can be scrutinized through these analytical lenses, and would give insights on what has worked and what has not: The Bangladesh Delta Plan 2100 (BDP2100) and the Tidal River Management initiative (TRM).

As a note to add here, it was seen from the previous sub-sections that an emphasis was given to the *Institutional Transplantation* framework from the supply side, and to *Problem Iterative Adaptation* framework from the demand side. These two methodologies are considered here as the most relevant for the research due to the following reasons: on the supply side, the Institutional Transplantation Framework (ITF) shows a more strategic set of actions from the donor country, which can have more influence, affect more and, in the long run, be more invasive in a beneficiary country than just lending money out. This kind of relationship gives more space to really change the kind of alliance that can happen between countries, which is a partial aim of this research. From the problem driven side, the PDIA is more 'reluctant' - in principle - to foreign contributions, however it has a strong component of capacity building that is vaguely mentioned in the other approaches. This factor, is considered by many as very important, specially in the international community, however few address it as a real challenge, and almost none in the specific way of PDIA.

Next chapter will present the research methodology used and do a general presentation of the two case studies named before, both of them developed in Bangladesh yet moving in different approaches of implementation. Understanding these cases will be the first step towards the analysis required to find a common ground between problem and solution driven approaches.



# 3

## **METHODOLOGY AND CASE STUDIES: BANGLADESH DELTA PLAN 2100 AND COASTAL MANAGEMENT INITIATIVES**

In order to start developing the joint approach proposed in the previous chapter, this one is organized as follows. First, the methodology of research is presented, using PDIA and ITF as frameworks to start the analysis with, and then two case studies are going to serve as point of departure.

The first case is the Bangladesh Delta Plan 2100 (BDP2100). A national plan developed in Bangladesh which aims to create a comprehensive approach to manage the water objectives of the country, a critical resource there. This case will serve as a starting point to see how its development derived from a rather "supply-driven" side of the project implementation continuum, as it was fully funded by the Dutch government and developed by Dutch companies to some extent.

The second case to explore is around the Coastal Management Initiatives in the South Western part of Bangladesh, with a focus on the (evolution of) Tidal River Management initiative. This case, which looks more like a "problem-driven" situation, shows how a very local and indigenous idea has grown to serve the local difficulties of water logging in the South-western part of Bangladesh. This is the main reason to select TRM from all the Coastal Management Initiatives that have been developed in the past, however, TRM cannot be understood without considering the past efforts of the Bangladeshi people and international actors to adapt to the dynamic condition in the South West. Also, in this case, the limitations will be explored further, especially around the concept of the plain 'local is better'.

The country, as well as the South West region in particular, have some characteristics that make them special from the social and geographical perspective.

### **3.1. METHODOLOGY TOWARDS AN IMPROVED APPROACH**

Joining and improving the problem and solution driven approaches is the main goal of this thesis. To do so, the two case studies mentioned above will be analyzed through two different lenses taken from the literature explored: First, the PDIA methodology is used to understand each case from the problem driven side, as it is a very dynamic and strong

<b>PDIA</b>	
<b>Core steps of PDIA:</b>	<b>Questions to analyze Case Study:</b>
Aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors.	What problem(s) were defined and how were the problems (and if applicable, solutions) defined for this project? Who developed the definition of this problem?
Creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance".	Was there an authorizing environment to develop the initiative? From whom and how was this support received to implement and make the changes to the proposed plan/project?
Active, ongoing, and experiential (and experimental) learning and the iterative feedback of lessons into new solutions.	Were there learning processes involved? How were they developed? Were there feedback lessons that enhanced local capacities?
Engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable.	Which actors/agents were involved to legitimize the actions proposed that could enhance trust of the initiative?

Table 3.1: Problem Driven Iterative Adaptation (PDIA) main steps with correspondent questions to analyze

<b>Institutional Transplantation</b>	
<b>Heuristics for Institutional Transplantation at the International Level:</b>	<b>Questions to analyze Case Study:</b>
Strengthen the position of international proponents of change.	Which and how were international actors engaged to participate in the initiative?
Avoid 'xeroxing' (copycat transplantation) – use multiple models and go from the general to the specific.	Was there a copycat translation of an idea? How was the process of bringing/implementing a foreign idea into the beneficiary country? To what extent was it actually a "copy" of ideas?
Hire and use proactive institutional entrepreneurs.	Which were the actors promoting the idea/project in the local context?
Recognize and use windows of opportunity when they appear.	What windows of opportunity occurred to implement the initiative? Was there a feeling of crisis or emergency around it?
Account for cultural and administrative differences and similarities.	How were divergences tackled by the donor agent? To which extent were they managed?
Use only neutral or positive symbols.	What symbols are present around the initiative that reinforces the positive image or results of it? Are there negative symbols or connotations around?

Table 3.2: Institutional Transplantation main steps with correspondent questions to analyze



approach which still has to be tested outside the owners of the methodology, as it was not found in the literature. Table 3.1 shows the main pillars of the methodology translated into questions which can be answered for each case study.

Secondly, the Institutional Transplantation framework proposed by de Jong and Stoter 2009 will give insights on the specific moves taken by the donor agents around the problems to solve, which could show a better picture of the supply side, especially with a focus on the strategy to approach international cooperation. Table 3.2 shows the points proposed by de Jong and Stoter translated into questions for the each case study. This approach is selected as it is a strategic way which more and more countries are using to develop their international cooperation relationships and alliances (Kinne 2013; Haim 2016; Milewicz et al. 2018).

To answer the questions proposed there, semi-structured interviews were held with the main actors involved in each one of these projects through snowball sampling. Appendix D shows the agencies that were interviewed, sometimes with more than one interviewee from them, and which were considered key from both sides. In the following chapters, when referring to the interviewees, they will be presented with a code and between < >, as interviewee <1, 2>... until <23>. This is done in order to keep the anonymity of them. These actors' perceptions and their roles will be presented with more detail in the next chapters for each case study.

First, an analysis of each framework is done according to the answers of the interviewees under the light of each element of PDIA and ITF, by comparing the answers of the interviewees whether they support or contradict the parameter of a framework. After this, a comparison will be made pointing the benefits and difficulties as taken from the two case studies. By doing this comparison, a match of the points in common from each case will join and simplify the PDIA and IT frameworks. Then, in chapter 6 a more throughout comparison of the frameworks will detail what is contradictory between them and how can that be overcome.

With the similarities and differences between the frameworks, as well as the gaps present between them and what was taken from the interviews, a proposed joint framework is presented where the solution and problem driven approaches can work together.

## 3.2. WHAT MAKES BANGLADESH SPECIAL?

To understand better the reason why are BDP2100 and TRM important for the country, a review on the history and nature of Bangladeshi context has to be revised. The history and nature of Bangladesh is strongly related to water, as it is a country fully dependant on water resources in many aspects.

### 3.2.1. GEOGRAPHICAL CHARACTERISTICS

First, around 7 % of the surface of the country is composed of rivers or water bodies. If we add to this that 80% of the whole area are floodplains, which will be flooded either by high discharge or tidal behaviors, the influence of water in the country is really high. As part of the characteristics of the water that flows through Bangladesh, its main three rivers, the Brahmaputra, Ganges, and Meghna, come from outside the country, making it not only dependant on water but also on international use of this water. The tropical monsoon

climate in Bangladesh causes big changes in rainfall and temperature patterns throughout the year, which also affects all the other variables just mentioned regarding water.

Also, the very dynamic condition of the delta plays a major role in the way of living there. The Ganges-Brahmaputra Delta that is formed by the Brahmaputra, Ganges, and Meghna rivers, creates the largest delta in the world in the bay of Bengal, offering not only a huge amount of water to this land, but one of the most fertile places in the world.

The fact that Bangladesh is not a static delta but a rather active one (Barua 1997, see Figure 3.1), the combination of brackish and fresh water in different parts of the country (especially in the south) and throughout the year, plus the favorable weather, offers fertile conditions to its land and also has been an attractive point for people to migrate and start farming.

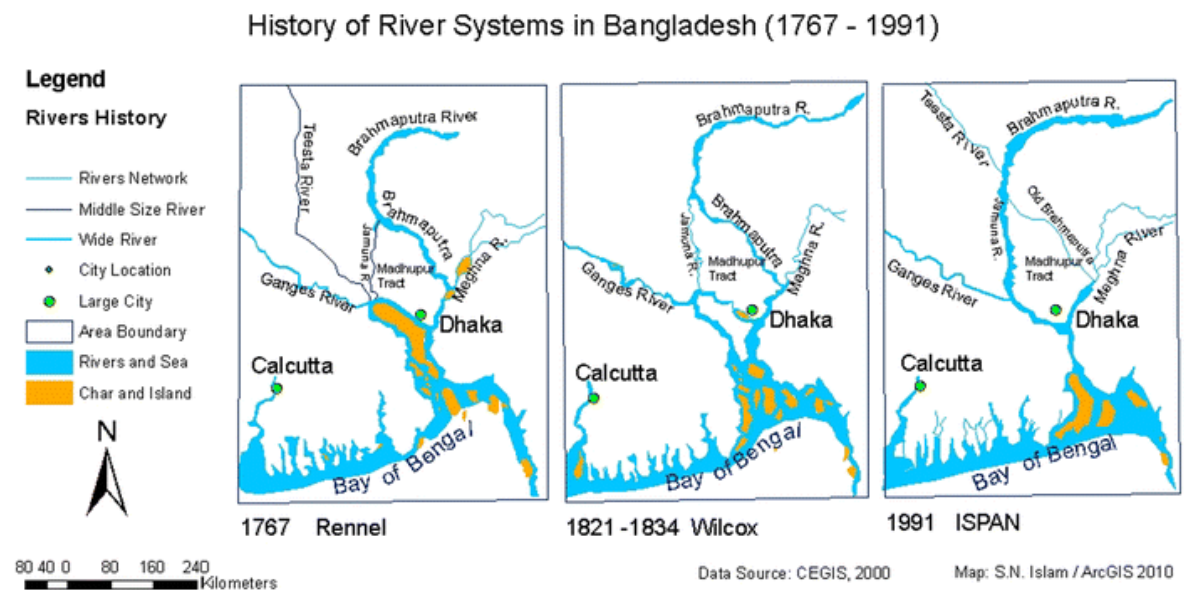


Figure 3.1: Changing process of GBM delta in Bangladesh (Islam 2016)

### 3.2.2. SOCIAL CHARACTERISTICS

Bangladesh is a growing nation whose consumption on agriculture and food is getting more intense every year. With over 162 million people, it is the eight most populated country in the world and the most densely populated one (excluding city-states).

Bangladesh, from the political and institutional perspective, can be seen as a rather young country, which was formed only in 1971, when they fought the independence war against West Pakistan (What today is just Pakistan). Before this, they were as a whole a British India. These points somehow show the social and political dynamic conditions that Bangladesh experiences now, especially regarding the capacities of the institutions which will be presented in more detail later.

The south west part of Bangladesh has even more unique characteristics that make the region special, but also quite vulnerable. This region has been prone to floods as a natural phenomena, however it comes from different parts: sometimes due to tidal activity and others due to runoff during monsoon. This pressure, plus the presence of the biggest man-grove forest in the world - The Sundarbans - makes the south west (also) a very special part

of the world. In order to optimize the livelihood of people there, multiple attempts have been done to deal with the salinity of the land plus the different water flows present there. Yet, this is still a challenge to be tackled. More than 10 million people live in this region, which around 85% work in agriculture and a high percent are under the poverty line. These characteristics put this region in a very vulnerable position, especially from natural unexpected changes. In the recent past, problems of floods and water logging due to human intervention in this region have increased the pressure on land use and on social dynamics, mixing climate change uncertainty with the recent environmental and socioeconomic challenges (M. M. H. Khan et al. 2015).

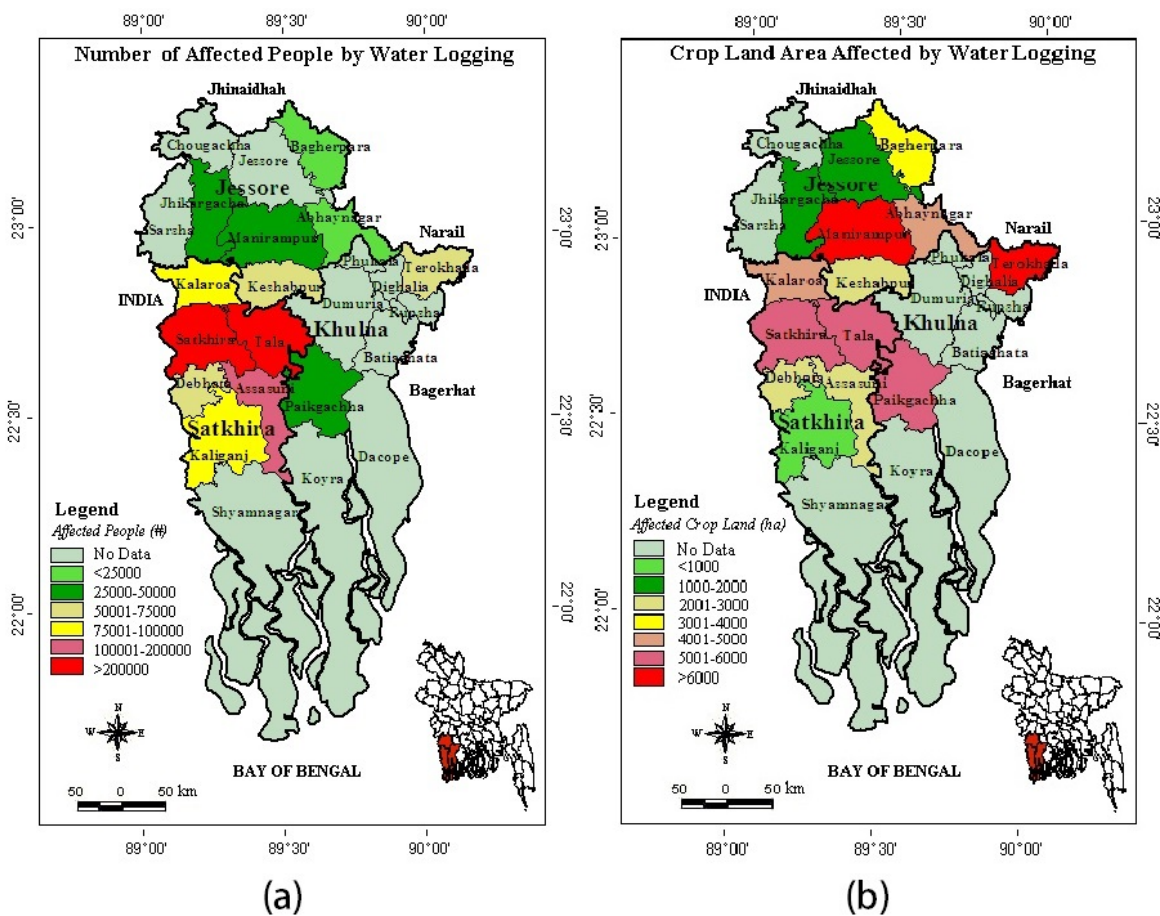


Figure 3.2: Affection of people due to water logging in South West Bangladesh (Awal 2014)

Finally, to understand better why this critical features of Bangladesh may be at risk, the effects of Climate Change are presented here. Although 'natural disasters' are common to happen in Bangladesh, changes in factors such as sea temperature and sea level rise put a big burden on this sensitive area (Agrawala et al. 2003; Loucks et al. 2010). For instance, the changes in temperature increase have critical effects on the Sundarbans ecosystem mainly (Mitra et al. 2009). Also, the sea level rise put a big threat to the mangrove forest, but also to the livelihoods of all the coast, and especially the south west, this would imply that more tidal water would come in to the country and that the evacuation of this natural processes will take much more time. Also, this would probably imply increase in salinity there (which

is already high) and sharpening the drinking water difficulties (Dasgupta et al. 2015). This combination of climate change, social pressure and natural uniqueness make locals and international community ask which is the best way to avoid (if there is) the effects of climate change here and / or how to manage them.

The characteristics presented here depict much of the dynamic situation of Bangladesh in the geographical and social perspective. This background will help to understand the case studies and their relevance in the Bangladeshi context later.

### 3.3. WHAT IS THE BANGLADESH DELTA PLAN 2100?

Under the light of the challenges faced in Bangladesh as a whole, the Bangladesh Delta Plan 2100 is a project developed between the government of Bangladesh and the Netherlands to promote the delta sectors in a comprehensive way in Bangladesh (BDP2100 2015). This project is not entirely new in the country and has a background of similar attempts in the past.

The ultimate goal of this project is to develop a long term strategy (year 2100) to adapt and adjust to climate change under the understanding of scenarios and adaptation. The project has been developed in a national scale and tries to include all delta related issues in the country, projecting the initiatives over time and trying to develop policies that can adapt over time.

### 3.4. WHAT IS TIDAL RIVER MANAGEMENT?

Tidal River Management (TRM) is the name by which is known the methodology to manage tides in the South West Part of Bangladesh. This initiative comes from an indigenous way of managing the water and silt coming from the sea to the South West area, which used to come as tidal waves twice every day. In the modernized version of TRM (actually the TRM name is rather new), a comprehensive and long term involvement requires.

What Tidal River Management proposes is a way to manage the huge amounts of sediments that flow in the south west part of Bangladesh. The characteristics of this region make it a dynamic area which include not only water and fertility of land, but also a dynamic movement of sediments, which affects the water and agricultural dynamics. Figure 3.3 shows in general steps how TRM works. Taking advantage of the tidal activities in south west Bangladesh, twice a day the tidal flow goes into the rivers channels with sediments from the coast. If a beel is open and TRM is working (as in the Figure), and a dam is closing the flow of this tidal river, the water and sediment is forced to get into the beel, be deposited there and then during the low tide, the water will return without the silt and will actually sweep the excess of sediment down stream.

This way of managing sediments has been proposed by local people who has suffered from water logging in the South West part of Bangladesh, and this is what makes it a more 'bottom-up' approach to deal with problems. There are, however, some challenges that have been faced and which will be explored in Chapter 5.

### 3.5. FURTHER ANALYSIS OF EACH CASE

The focus of this research is to see from different - and rather opposing - frameworks, the outcome of these projects, observing what worked "well" and what are or were the main

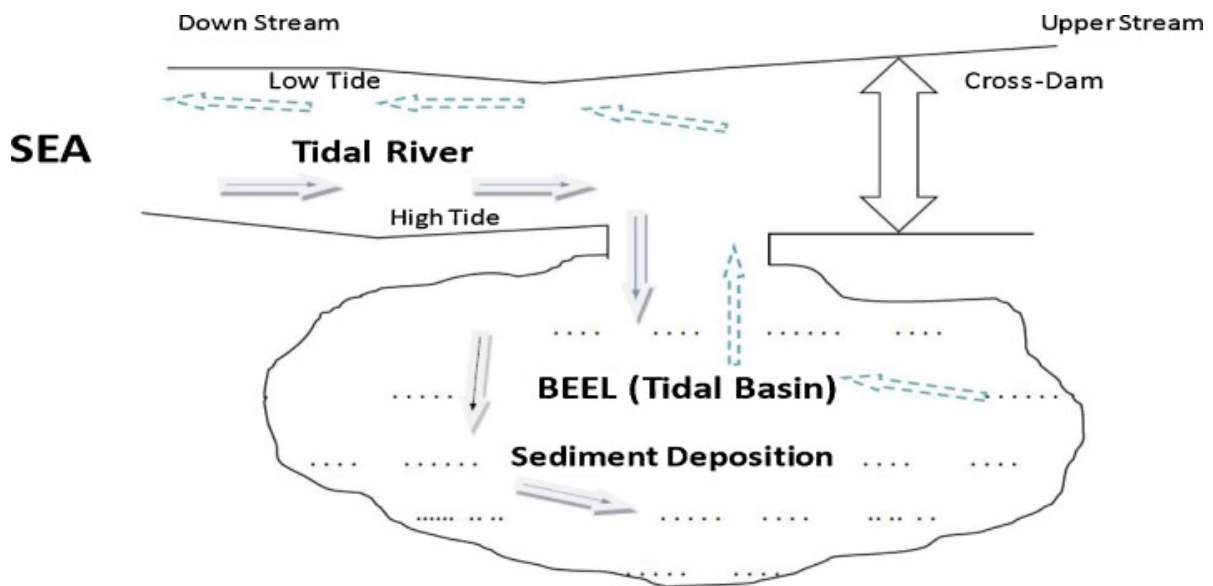


Figure 3.3: General functioning of TRM (Al Masud et al. 2018)

difficulties on developing the Formulation Project for the Bangladesh Delta Plan 2100 and Tidal River Management initiative.

In order to point these cases out, the questions presented in Appendix A are the default set asked to the interviewees. Many of these questions couldn't apply directly for each case, in which case were re-framed or adapted.

The next two chapters will dive into each case study with each framework - the PDIA and the Institutional Transfer -, to find the gaps in each side and evaluate how can they complement each other better.



# 4

## BANGLADESH DELTA PLAN 2100 - ANALYSIS FROM PROBLEM VS. SOLUTION DRIVEN APPROACHES

This chapter will present the Bangladesh Delta Plan 2100 (BDP2100) case study in detail, as well as a deeper analysis from the Problem-Driven side and Solution-Driven side.

First, background information is presented to understand the current situation and why the BDP2100 formulation project started and which actors were involved. After this, an analysis from the Institutional Transfer (IT) framework is done and also from the Problem Driven Iterative Adaptation (PDIA) one. In the end of the chapter some final remarks are presented from this case study.

### 4.1. BACKGROUND INFORMATION AND OVERVIEW

The development of the BDP2100 formulation project has development in a different way if compared with previous similar attempts. In a short view, Figure 4.1 presents the timeline of how these past experiences developed, partly between the international participation and Bangladeshi governments.

To start, the idea of a national water policy started from the time Bangladesh was part of Pakistan (East Pakistan), but not before, in the British period. Only after the partition of the Indian sub-continent in 1947 this institutional movements started, however with small interventions related to water and irrigation. In 1959, the East Pakistan Water and Power Development Authority (EPWAPDA) was created with the original responsibility *"for the planning, design, operation and management of all water development schemes* (Chadwick and Datta 2001), it was only in 1964 when a long term 20 years plan was developed with help of the USAID then, with an initial strong focus on flood control. The difficulties of this plan came during implementation, as it was very focused on embankments and polders, with great success in the beginning and for that of agricultural development, however the Water Management goals were not obtained (Pal et al. 2011).

The water focus by then was mainly around agricultural improvement, translating this to irrigation and drainage solutions, which were still very structure oriented and the inter-organizational communication was not strongly developed. The EPWAPDA responsibilities

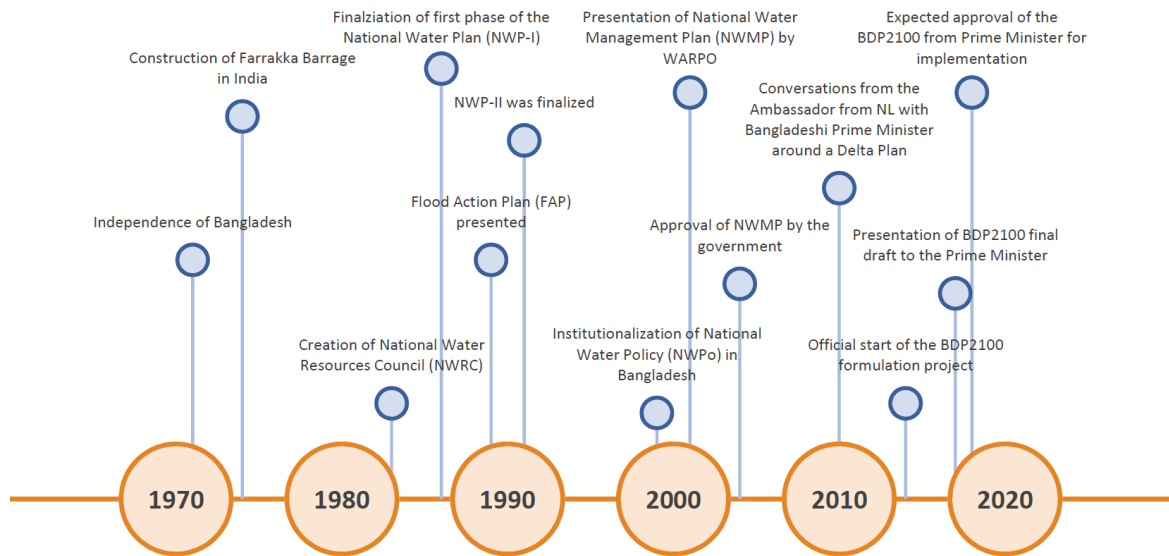


Figure 4.1: Timeline with the major milestones about national water plan events in Bangladesh

were given to the Bangladesh Water Development Board (BWDB), created after independence from Pakistan in 1971.

In 1974, the Farakka Barrage was built in India to divert water from the Ganges to the Hooghly river, in order to improve operations in Kolkata Harbor. This decision affected the influx of the Ganges going in to Bangladesh and contributed to a low upstream flow during dry seasons, considered partly as a causal of the increase in salinity on the south west region.

The best Bangladesh could get from this shared situation with the reduced amount of water coming from the Ganges was signing a Memorandum of Understanding, which led to the creation in 1983 of the National Water Resources Council (NWRC) as an inter-ministerial body (Chadwick and Datta 2001). This body developed the first National Water Plan (NWP) for Bangladesh, which consisted of various phases. The first one, regarding water use and water projections was concluded only in 1986.

A second phase of the NWP was developed in 1986 and finished in 1991, modelling with more detail and defining strategies. The work done by NWP included the necessities of fisheries, agriculture and navigability requirements in Bangladesh. It was the first time that water utilization was seen as a whole in Bangladesh, and was studied in that way to develop policies.

In parallel to the previously mentioned, from a more organizational side, a Master Plan Organization was proposing institutional sets that could support the development of the water related initiative in Bangladesh. This institution was further called - to adjust to the NWP alignments - as Water Resources Planning Organization (WARPO) in 1991; the mandate of WARPO was to "to carry out the task of national water planning as a continuing exercise" (WARPO 2018).

In 1987 and 1988, the worst known floods happened in Bangladesh, causing death to around 1700 people. These events moved international community to cooperate, lead by the World Bank, and develop the Flood Action Plan (FAP). This plan aimed to develop studies and pilot schemes around Bangladesh to tackle the floods there. By then, the government was a military dictatorship, and plus the way in which BWDB were dealing with the



water related issues, made the FAP become a set of initiatives which weren't consulted with the local people, bringing the attention of NGOs, international community, and disconnecting from the local initiatives.

The involvement of Dutch knowledge has been a constant in Bangladesh for more than 50 years. In this period the involvement has been around flood protection, in the construction of 139 polders, as well as participation and promotion on various Master Plans, among many other local initiatives around water management and coastal zone management (NWP 2013).

After the final recommendations from the Flood Action Plan in 2005, a National Water Management Plan was envisaged, and it was in 1999 when it was approved, and given to the Water Resources Planning Organization (WARPO) to develop. This plan was finalized in 2001 and, after some delays in the check from the government, it was approved in 2004. Here the Embassy of the Netherlands had an active involvement.

By 2010, the Netherlands, through the ambassador in Bangladesh approached the Prime Minister to present the Delta Planning process developed by them. It was an approach that was from the top and looked for political commitment in the highest level. This process started with a Preparatory team that aligned local and Dutch actors to develop such plan. In 2012, as a reinforcing document to the work done, *"a Memorandum of Understanding was signed between the two countries to cooperate on delta planning"* (BDP2100 2017b). This was followed by the official launching of the Bangladesh Delta Plan Project Formulation in August 2014. After 3 years of preparation, the final draft of the BDP2100 was presented, and it is currently on evaluation by the government, which final approval is expected in 2018.

The following section will give a broader overview of the actors involved and then, the analysis of the case from the Problem and Solution driven perspectives.

#### 4.1.1. ACTORS AND INTERESTS IN PLAN DEVELOPMENT

The BDP2100 was formulated in Bangladesh through the involvement of different actors. First, a consortium of consultants was grouped to deliver a report to GED, the 'client' who would present and adjust the Delta Plan in the government. This first team was called BanDuDeltas and, within the terminology in GED, was called Team A. As it was the main consultant team that was in charge of developing the whole Delta Plan. This team was led by the Dutch Twynstra Gudde and composed by Euroconsult Mott MacDonald, ECORYS, Witteveen+Bos, D.EFAC.TO, Deltares, Wageningen UR and UNESCO-IHE from the Netherlands. From Bangladeshi side the participant organizations were the Center for Environmental and Geographic Information Services (CEGIS) and the Institute of Water Modelling (IWM). The Embassy of the Kingdom of the Netherlands (EKN), was the main (and direct) representative of the Dutch position in the project. This actors' relationships are presented in Figure 4.2.

A team B was proposed by GED to adapt the work done by BanDuDeltas to the local context, which was the Policy Research Institute (PRI), an institute in Bangladesh who's members are well-recognized due to their involvement and experience in international organizations. They are also known by their economic analyses expertise and connection with the local policy context.

The following sections will dive in the Institutional Transplantation Framework and the

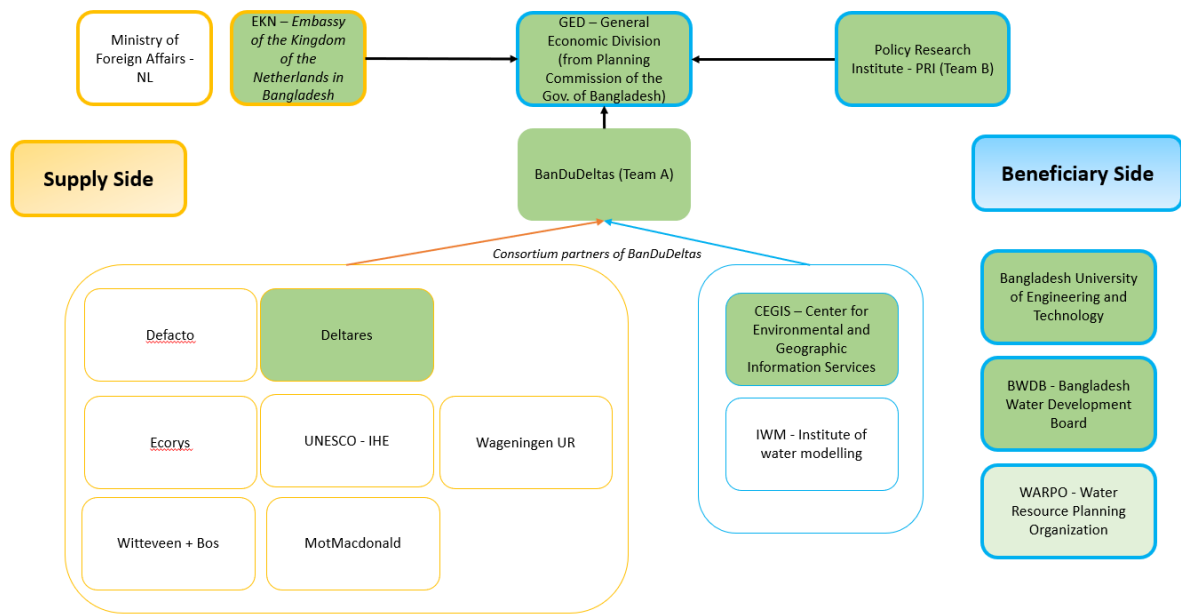


Figure 4.2: Set of actors involved in the development of the Bangladesh Delta Plan 2100, the color legend is yellow for the 'supply side' and 'blue' for the beneficiary side. In green the actors which were interviewed are highlighted

Problem Driven Iterative Adaptation one. Both will be evaluated with the information gathered around the Bangladesh Delta Plan. Appendix B has a broader set of data of the interviews held.

## 4.2. INSTITUTIONAL TRANSPLANTATION

After having some background information that shows the current status of the Bangladesh Delta Plan, an analysis of the interviews held with different actors involved in the development of the project will help to understand better how the Institutional Transplantation Framework applies for the case. Each step will be presented in this section with an analysis based on the interviews held and documents available.

### 4.2.1. THE POSITION OF INTERNATIONAL PROPONENTS OF CHANGE

The recommendation of this point is to *strengthen the position of international proponents of change*, which was translated into the following question:

*Which and how were international actors engaged to participate in the initiative?*

The first and highly recognized topic around this is regarding the Dutch expertise in Water Management worldwide. This position was mentioned by organizations from both sides, the donor and beneficiary country <1,2,3>. Among the comments, a point was mentioned that "*no other donor would be more suitable than Dutch [for the Delta Plan], that's for true.*" <2> The main point, among this, was regarding the new concepts of Adaptive Delta Management, where the Dutch are the *champions*, as well as the Long Term Planning, where Bangladesh is not that expert nowadays <2 and 3> but which is important if

considering the fast development the country <4>. The perception is also that other donor countries would be experimenting in Delta Planning, while the Dutch are experimenting in their country <2>. Another positive point mentioned was about the chance to learn from Dutch expertise in a political sense, mobilizing political forces in Bangladesh. This comment will get relevance later for the full analysis.

Although this general "positive" perception was there regarding knowledge, there were also voices who thought that the Dutch involvement didn't really go deep in the development of the Bangladesh Delta Plan, especially in the environmental degradation analyses. This was a *missed golden opportunity* to have new insights from the Dutch and for Bangladesh <4>. Also, the way in which they managed the actors within Bangladesh to gain political influence was criticized by some, as if they (EKN) were looking for the best local broker (Hasan, Evers, and Zwartveen [in preparation](#)).

This brings a relevant intermediate question: What was the interest of the Dutch by developing this BDP2100? It is important as it actually shows how were they presenting and perceived by organizations in the beneficiary country. As mentioned <1>, the Dutch have the *"ambition as a worldwide supplier of knowledge, capacity on Water Management, also nowadays on Delta Development. That's a branding we have and want to keep. That means also is not only commercial, is also government to government, between NGOs, between knowledge organizations, and maybe also between commercial organizations"*. This is also supported by (Government of the Netherlands 2013). So in the short term, the strategy is to build a brand which is as *"a supplier of expertise, and in the longer run, in other domains it helps"* <1>. It is a strategy that has worked in Indonesia, but apparently in Bangladesh doesn't seem to go in that direction now <1>.

On the other hand, there is an opposing strong view from the beneficiary side by some actors. A local NGO sees that "the Netherlands is not much about aid, but more trade" <13> which is *"normal"* and that *"there is nothing wrong, the world is changing and that is changing as well..."*, especially as the investment patterns have changed in the recent decades. The interviewee points that the Dutch are going to Bangladesh to learn from their projects, help them and that is it, but is more like a mutual cooperation. *"All this aid has 4 purposes: 1. To open doors to my own (donor) businesses, 2. To employ my own people, 3. To create influence on the system, 4. To help the system if there is money left. (...) They are not here to help an 'unsolvable' problem, but to learn, and we do so also... you're here to work on delta plan, good idea, but you cannot make a 100 year plan"*. <13>

A support for the latter argument comes from pointing that the type of delta the Dutch have is very different to the Bangladeshi one, and that they are actually in Bangladesh to see and learn from a *"proper delta"* <13>, which is very different when compared to the Rhine one, probably referring to the population, size and threats that each one face. (see Figure 4.3).

In all these cases, it seems that the Dutch, through the Embassy of the Kingdom of the Netherlands (EKN) exchanged giving "space" of local organizations to lead such as GED, in exchange of keeping Dutch cooperation in Bangladesh (Hasan, Evers, and Zwartveen [in preparation](#)).

The way in which the Dutch approached the government came from a very top-down way. The Ambassador of the Netherlands in Bangladesh approached the Prime Minister to propose the Delta Planning, which they were already selling worldwide, with specific cases of Vietnam and Indonesia <2> & (Hasan, Evers, and Zwartveen [in preparation](#)), now with

Country	Delta	Population (in million)	Population density (inhabitants/km <sup>2</sup> )	Annual average discharge (m <sup>3</sup> /s)
Bangladesh	Ganges-Brahmaputra-Meghna	160	1.200	138.700
The Netherlands	Rhine–Meuse	6,5	500	2.530

Figure 4.3: Comparison of Dutch and Bangladeshi deltas

the attempt of climate change adaptation and helping to reach the goals for future economic development. After this persuasion, a request was made by the Prime Minister to start preliminary evaluations of such Bangladesh Delta Plan. After some initial consultations, it was approved there was a formulation project for the Bangladesh Delta Plan 2100. Several visits from the Dutch agencies and to other neighbouring countries helped to convince and push the initiative even more, to sign later a memorandum of understanding (MoU) around the BDP.

In order to give more momentum to the new initiative of BDP, from the very beginning involvement was encouraged from other international related organizations such as the World Bank (WB) and the Asian Development Bank (ADB). This would be a reinforcing loop, because *[if the] "World Bank is involved, other donors can be easily involved"*. This strategy, is not only helpful for the Dutch, but also (and probably mainly) for Bangladesh, as the presence of donors is perceived to be a source of money <13>. This has been the way now, but also from the past, in the IECO project, the Flood Action Plan and the National Water Management Plan <6>.

To conclude this question, around the Bangladesh Delta Plan the water expertise of the Netherlands is highly recognized, however it seems that also contributions from political moves and a long term relationship from the past has helped to build reputation of the Netherlands in Bangladesh. This advantage though, is not exempt of doubts about the actual help they bring and their intentions behind this kind of cooperation. The international position of the Dutch is reinforced and supported by the involvement of other actors such as the World Bank or Asian Development bank, who also come in when there is an actor such as the Netherlands supporting a plan of such dimensions; it is an "international reinforcing loop".

#### 4.2.2. COPYCAT TRANSPLANTATION? - GO FROM THE GENERAL TO THE SPECIFIC

From the institutional transplantation framework, a recommendation given is about *avoiding 'xeroxing' (copycat transplantation) and instead use multiple models, going from the general to the specific*. This is translated in the following questions:

*Was there a copycat translation of an idea? How was the process of bringing/implementing a foreign idea into the beneficiary country? To what extent was it actually a "copy" of ideas?*

A key feature to control the adaptability of institutional transplantation between countries comes by avoiding the exact copy' of ideas. In the BDP case, this came in forms of adapting to local conditions by giving the Bangladeshi organizations the leadership of the ideas proposed and how to do it, however the way of matching these differences was seen by some locals as a biased view of the problems. Also there were factors that were almost literally translated in order to make the institutional transfer, as will be presented here.

To start, in the development of the BDP2100 formulation project differences came up in the way of working between the Dutch participants around the suitability of the ideas proposed, the Bangladeshi participants and even the World Bank, when it came in into stage for the BDP. However, part of the strategy of the Dutch and the Planning Commission was to keep the control of this in the General Economic Division (GED), keeping the leadership of the project and deciding on fundamental mismatches and decisions that could arise <2> (Hasan, Evers, and Zwarteven [in preparation](#)). Examples of this happened when Team B was included in the Plan Development, composed by Bangladeshi institutions which were more experts in the local economics <2>. Although this was "successful" in the higher levels, by adapting the scenarios of Team A (BanDuDeltas) to policy options by Team B (PRI), still conflict remained about the suitability of the Dutch scenario perspectives. Somehow the scenarios developed were a *"delta plan politically palatable with Bangladeshi (political) flavor"* (Hasan, Evers, and Zwarteven [in preparation](#)).

For instance, a critique that was pointed by the Bangladeshi side was one regarding the quality and amount of the work done by Dutch institutions. They said that many Bangladeshi organizations were subcontracted by the main Dutch companies, and they did the majority of the work, and the Dutch little compared to what they received <2>. Also, the use of scenarios was still half developed and not fully validated with the local conditions. On the other hand, some locals strongly opposed to the long term concept of 100 years plan: *"they don't know what they are doing(...) Do they know the effects of climate change in 20 years? (...) this is the way in which the Dutch want to deal and propose the problem, [the project] is in their [Dutch] way. . . somehow is not a donor-recipient relationship. They have their interest. I have mine and is my duty to protect my interests."* <13>

Some characteristics which were not considered in the development of the BDP but still were important, were those regarding the Delta Planning. For instance, in the scenario development proposed by the Dutch in the Delta Planning concept, uncertainties are required to be pointed out, as this will be the base point to develop the scenarios. This however, was criticized as many of the very local uncertainties were not really taken into account, such as trans-boundary water sharing and upstream development; this was, however, implemented during the workshops developed with people in Bangladesh (Hasan, Evers, and Zwarteven [in preparation](#)). Other difficulties that arose were regarding the non-practical terms of the scenarios, which were not "pragmatic" without an economic implication for policymakers. Also some differences appeared about team A 'selling' the Dutch concept of Delta Commission and Delta Fund in Bangladesh, seen as a lousy approach by the investment plan team (Hasan, Evers, and Zwarteven [in preparation](#)).

The copycat process is seen as partially happening there: The incidents presented regarding knowledge transfer and adaptation were somehow managed through the leadership of GED in the formulation development, tackling somehow the 'foreign copy' brought.

However, an important concept that was translated from the Dutch context to Bangladeshi one was around the Delta Commission and Delta Fund, which looks pretty much like the Dutch concept of the Delta Programme nowadays (<https://www.government.nl/topics/delta-programme>).

#### 4.2.3. PROACTIVE INSTITUTIONAL ENTREPRENEURS

A point that would help the institutional transplantation is finding and developing *proactive institutional entrepreneurs*, who can actively develop the transfer process inside a country. In this case to know if this actually happened, the following question will be answered for the BDP case:

*Which were the actors promoting the idea/project in the local context?*

A paramount criteria that influences the suitability of the transfer of ideas is getting local support in the beneficiary country in the right way. To do so, the Dutch changed the strategy to approach the local institutions and a stronger actor was required to develop the Delta Plan. The financial and political strength were the leading the criteria to define who would take that lead in the field.

From past experiences between the Netherlands and Bangladesh, many water planning activities came from the Water Resources Planning Organization (WARPO), especially the National Water Management Plan (NWMP) in 2004 (WARPO 2001). This plan and WARPO didn't get enough support in the national level, reason for partly developing and implementing it, but just from the water sector <1>. This however was not the plan when developing the BDP2100 now, it was needed a much more broader support and engagement in the higher government <2> & (Hasan, Evers, and Zwarteveen [in preparation](#)), as many things had to be developed in monetary terms to do so <13>. A similar situation was there with the implementing agency *Bangladesh Water Development Board* - BWDB, where difficulties arose when connecting with local people and in the institutional level <6, 3>.

To overcome this, a new leadership was required to develop the BDP. The ambassador's persuasion in Bangladesh was the first step to develop a stronger local ally (defender of the initiative or "entrepreneur"), from the top in this case first with the Prime Minister to ensure political commitment <3> (Hasan, Evers, and Zwarteveen [in preparation](#)). From here, the involvement of the Planning Commission was a mandate from the Prime Minister for the BDP2100 <2>.

The involvement of this commission, and especially of the General Economics Division (GED) within the Planning Commission was 'key' to promote a national plan. As mentioned by many in the Bangladeshi side, *"The leadership of the planning commission has been quite strong. It's about leadership, convening power, those kind of things. This has worked."* <1>, *"water is not a sector here, but it needs inputs from all sectors. That's why it has to be holistic. And only the planning commission can do that"* <2> (Hasan, Evers, and Zwarteveen [in preparation](#)). This was true by the convening power, however the actual technical convenience was (and is) a big question to what will come with the development of the Delta Plan.

The strategy of having a strategic partner in Bangladesh for developing the BDP2100

was assigned to the GED in the Planning Commission. This actor worked as a point of union in the high government to ensure political and - especially - financial commitment. This, as seen by many Dutch actors (Hasan, Evers, and Zwarteveen [in preparation](#)), was critical to actual make a viable Delta Plan in Bangladesh. The doubt about the real suitability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan.

#### 4.2.4. THE USE OF WINDOWS OF OPPORTUNITY

The fourth point of the Institutional Transplantation Framework recommends to "*recognize and use windows of opportunity when they appear*", in order to expand the probability of succeeding in the institutional transfer process. This was translated into the following questions:

*What windows of opportunity occurred to implement the initiative? Was there a feeling of crisis or emergency around it?*

Bangladesh has the clear goal for 2021 of becoming a middle-income country (Centre for Policy Dialogue 2007). To develop this, it is required that conditions inside the country can support it, however, Bangladesh is one of the most vulnerable countries to climate change effects (Kreft, Eckstein, and Melchior 2016). This would hamper the economic goals and - of course - change the whole perspective for Bangladesh in 2021. With the increasing importance of climate change effects everywhere, a 'window opened' in which Bangladesh would require to adopt to climate change issues. This opportunity was proposed by the Dutch with the Delta Planning Process (Hasan, Evers, and Zwarteveen [in preparation](#)). In this process of conveying about the limitations that Bangladesh had, as well as the opportunities that the Dutch could offer, a feasible new future was portrayed. The recently approved National Water Management Plan developed by WARPO (2004) didn't include many climate change considerations that came up later, which were a fertile field and a socioeconomic gap to develop a (new) plan <2>. This was not only in the international community interests after the during early 2000s, but also promoted by the Dutch in the Bangladeshi context to open the window of developing solutions for climate change through the Bangladesh Delta Plan <3>.

This approach has worked in other scenarios of the region with similar problems. For instance, in Indonesia flood protection opened new doors for Dutch to develop other business opportunities, in the cities mainly <1>, however it would imply that other areas are mainly "development aid"... at least for a while. The Dutch approach of aiding while finding commercial opportunities has worked in some places in Indonesia, "*but in Bangladesh we haven't found that much common ground yet*" <1>.

Climate change is a threat almost everywhere in the world nowadays, and is this precise challenge the window of opportunity that appeared after studying better climate change, opening a gap in knowledge and water policies in Bangladesh through the Dutch lenses. This was the chance to introduce the Dutch Delta Plan into the country's political agenda.

#### 4.2.5. CULTURAL AND ADMINISTRATIVE DIFFERENCES AND SIMILARITIES

One of the biggest challenges around Institutional Transplantation comes regarding cultural differences between countries. The framework proposes to *"account for cultural and administrative differences and similarities"*. To the BDP case, this was portrayed as:

*How were divergences tackled by the donor agent? To which extent were they managed?*

In order to integrate a plan that involved Bangladeshi and Dutch knowledge institutes, a division of tasks had to be made, with definition of who was doing what. Apparently though, it wasn't that clear to everyone from the beginning, especially as Team A and Team B collided in perceptions and work sometimes. Team A included many Dutch organizations, and Team B were only Bangladeshi organizations. This multiple team management was led by GED, who *"took the information from both sides and mixed them. GED fine tuned this document"*<2>. In this sense, the differences that arose were managed by the local GED. In the work itself, even someone said that *"compared to other plans I have seen, here the donors [were the] least involved"* <4>. Also, some said that the work received by Team A lack coherence and it had to be translated into the Bangladeshi context and policymakers (Hasan, Evers, and Zwarteveen [in preparation](#)). The strategy to develop a plan with acceptance was on showing the foreign factor where it was relevant (in the technical analyses for instance), but also on the local organizations in their terms to bring relevance (Hasan, Evers, and Zwarteveen [in preparation](#)). That's why the role of the central planning agency was critical to allow local adoption of the ideas.

The difficulties were also present here regarding different issues. One recurrent topic was the way of dealing with the team composition to participate in the BDP2100 <2> (Hasan, Evers, and Zwarteveen [in preparation](#)). The fact that some of the requirements seemed to favour the Dutch organizations and asked for participation of young people, represented lack of seriousness for some locals, especially because it was a national plan: *"the Dutch shouldn't haven taken this as a tendering process, as it is important, is not just a consultancy, is a national plan. [If] a young lady makes [wrong] things, we suffer"* <2>. In this specific case, a relevant difference arose in age. For some, the complexity of how things were presented, for the local context, would be a barrier to overcome <4>. Even the naming of scenarios as low economic growth or business as usual would mean that the BDP wouldn't bring improvement, where *"the congestion and stagnation were renamed as moderate and active scenarios"* (Hasan, Evers, and Zwarteveen [in preparation](#)) (Figure 4.4). An importance difference and challenge that popped up came with the threatening creation of the Delta Commission, which would come in conflict with BWDB and defy their budget and way of dealing with the water issues <2> (Hasan, Evers, and Zwarteveen [in preparation](#)).

Also some questioning came up from the developing of the plan. Some questioned the suitability of that "international transfer" of knowledge between countries, such as Vietnam, the Netherlands and Bangladesh <3>. Also, the bigger participation of Dutch organizations compared to the Bangladeshi ones raised the questions of the reliance on foreign consultants to develop themselves, especially after the developments of the 139 polders, which were a solution for a while in Bangladesh, but are now part of the water logging problem in the South-West region in Bangladesh. *"A majority of [Bangladeshi stakeholders] remain skeptical about sustainability of the BDP 2100. They observed to be hopeful when they consider the investment plan component as an instrument to create and maintain in-*



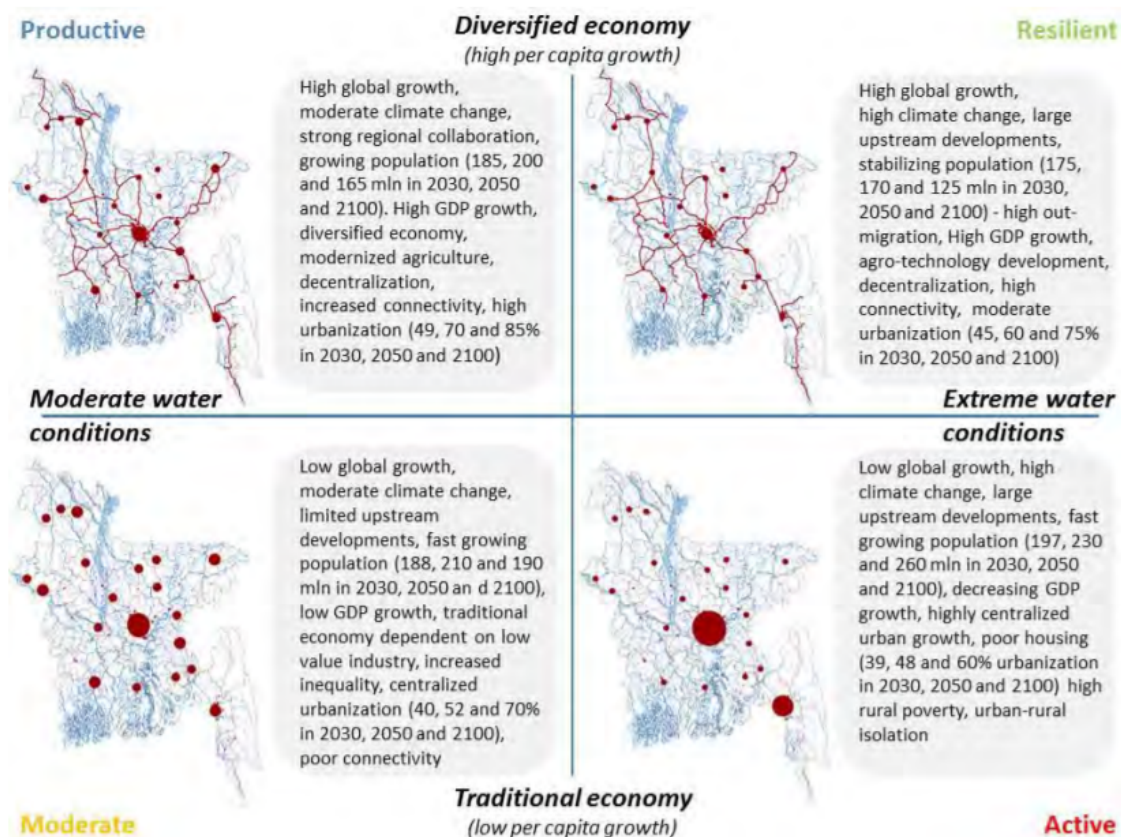


Figure 4.4: Scenarios developed for the BDP2100 formulation project. (BDP2100 2017a)

terests and alliances between the epistemic communities, though the projects are mostly 're-invented' in the negotiation of interests" (Hasan, Evers, and Zwarteveen in preparation). Finally, they were also directly confronted with questions like "why this [BDP2100] program? what is the main intention of this program? why are you (Dutch) thinking for us? You first go to the government, convinced the government and then came here [for stakeholders consultation]... so behind this activities what is your main objective? This kind of questions are really embarrassing for them, and that's why they didn't invite me after that" a member of a local NGO said <14>.

As the BDP2100 is a formulation project so far, further commitment needs to be developed. For this, the Dutch have proposed the creation of the Delta Commission and the Delta Fund, institutions and resources that will help ensuring the implementation of the Delta Plan in the long term, but also the future presence of the Dutch and other international organizations. This will be also financed by Dutch government <3>.

The Dutch have learned how to deal with different environments regarding Water Management worldwide, especially where active collaboration goes on as with Vietnam and Indonesia. From here they have taken some lessons like possible funding constraints and the importance in long term planning <1>. They have tried to take this in the Bangladeshi case to make the current Bangladesh Delta Plan happen from a governmental perspective. Also, they have managed to create the strategy of giving leadership and freedom to GED, to allow keeping the ownership of the BDP on hands of the Government of Bangladesh

(Hasan, Evers, and Zwarteveen [in preparation](#)). Still, an important question remains unsolved for many of these international interventions from the donor's perspective: *"how is the institutional sustainability going to work? also the economic sustainability? That is the conclusion [question] of our (Dutch) evaluation"* <1>.

The differences in culture and institutions are probably one of the biggest barriers to develop any international project. In the BDP case, this hasn't been the exception, and many critiques have arisen for the development of this project. It seems to be, however, of paramount importance that the leadership remained local (to certain extent) and that they could steer the direction of the decisions, allowing the differences to be adjusted and omitting what could not be answered, like having a team A and B. So it seems that, at least in the high government level, the project has been able to go around, installing at least part of the BDP idea and adjusting to the Bangladeshi administration and high-level political environment. A challenge and question remains when the implementation happens, as this kind of cultural difference hasn't been addressed and will probably be a difficulty in the future.

#### 4.2.6. POSITIVE SYMBOLS AROUND THE CHANGE

The last heuristic recommended by the Institutional Transfer Framework is the *use of only neutral or positive symbols*. To define this in the BDP case, the following question is posed:

*"What symbols are present around the initiative that reinforces the positive image or results of it? Are there negative symbols or connotations around?"*

One of the main positive symbols presented - and sold - around the development of the BDP was that it would help a "sustainable socioeconomic development" in Bangladesh, a paramount goal which is having between 6 and 7 % economic growth rate in recent years (Hasan, Evers, and Zwarteveen [in preparation](#)). Also, part of the positive symbols presented were the long-term thinking in a country which is growing fast, a requirement to stabilize better the economy, climate change adaptation and environmental impacts <4>.

Another positive symbol mentioned when working with the Dutch, was around the new methods by working with scenarios. The fact that this could 'tell stories' in different ways and include solutions to climate change on it, was felt as a novel approach that was useful from this international cooperation <2>. *"The Delta Preparatory Team portrayed a (Dutch) delta plan somewhat as a panacea that will address multidimensional development challenges in Bangladesh, be it a scale of local governance and trans-boundary. The BDP 2100 can enhance good governance through institutional arrangements and capacity building and can strengthen cooperation with neighboring countries and international development partners"* (Hasan, Evers, and Zwarteveen [in preparation](#)). These advantages had also some critical opinions from the other side: *"This program is coming from the top. In general this programs are not good involving people and with ecology"* <14>.

Although an international project will always pose challenges regarding the positive image, here it has not shown clear negative symbols... so far. This point will become even more important during the implementation phase to come in the future.

### 4.3. PROBLEM DRIVEN ITERATIVE ADAPTATION

The Problem Driven Iterative Adaptation (PDIA) side is the other opposite, as mentioned in chapter 2. It analyzes the development of an initiative from the eyes of the local problem owner. This section will explore how was this taken into account for the BDP2100 case, if so.

#### 4.3.1. PARTICULAR PROBLEMS IN PARTICULAR LOCAL CONTEXTS

The development of the PDIA includes a first very basic requisite to actually pose that a project is locally developed. It suggests that the focus should be on *aiming to solve particular problems in particular local contexts, as nominated and prioritized by local actors*. This was translated to the following questions for the BDP case:

*What problem(s) were defined and how were the problems (and if applicable, solutions) defined for this project? Who developed the definition of this problem?*

One of the questions that has been around this project comes regarding whether it is an actual problem or not. Some local actors think that it is a redundant work pushed by the donor (in this case the Netherlands), with low enthusiasm among some GED officials (Hasan, Evers, and Zwarteveen [in preparation](#)), and also that they don't really know what they are solving, that the actual ones that know are the local people, *"even if it is not in equations terms"* <13>.

However, some actors do think that there is a problem, especially in the higher government level, where water has always been taken as a sub-sector under agriculture and thus no serious national project was developed for it <2>. Also, some others (not specified who) think that this would help bringing money to Bangladesh, as it is a stimulant for other donors to come (Hasan, Evers, and Zwarteveen [in preparation](#)).

Mentioned by many, the climate change issue was the excuse that came with the Dutch... and thus the "problem to solve", as it would allow economic development <2, 3>. This seems in line with perceptions of a foreign problem definition. *"They (GED) observed that some agencies and ministries attempted to recycle their old projects under the BDP2100 implementation program"*, more like a "wish list" (Hasan, Evers, and Zwarteveen [in preparation](#)). The lack of participation and motivation from the ministries for projects presentation and the lack of detailed analyses in those projects was also present there.

The procedure for selecting the projects that went to the BDP were collected from various ministries through the GED, from initiatives proposed by them, the consultants (team A and B) reviewed the proposals and filtered them on themes, problems and areas <2> & (Hasan, Evers, and Zwarteveen [in preparation](#)). After this, they were filtered and sequenced according to the adaptive pathways methodology of Delta Planning. Some workshops were held later with government officials to present the scenarios.

Although the development of the BDP2100 had clear strategies for developing the plan, in the view of PDIA it wasn't a problem driven initiative. There are two main reason to say this; the first one is that there was no actual problem definition developed, at least not in the local level, and although there were consultations, the projects came from initiatives of the ministries. Secondly, the development of the Climate Change issue came from the Dutch side, and was not really developed locally, which was more like convincing than ac-

tually developing a problem.

#### 4.3.2. "AUTHORIZING ENVIRONMENT" FOR DECISION-MAKING THAT ENCOURAGES EXPERIMENTATION

To develop local capacities and learn from mistakes, an *authorizing environment* "should exist for decision-making that encourages experimentation and "positive deviance". This will be analyzed through the following questions:

*Was there an authorizing environment to develop the initiative? From whom and how was this support received to implement and make the changes to the proposed plan/project?*

The experimentation "allowance" came here from top-tier government to do the Delta Plan in Bangladesh, as partly explained in the previous sub-sections. This environment has been developed even before through other initiatives, such as the Flood Action Plan, the National Water Policy, National Water Management Plan, etc. <2,3> & (Hasan, Evers, and Zwarteveen [in preparation](#)), however it has always been limited to some extent. Now though, after timely relations in past projects in polder and river management, as well as coastal areas projects, the Dutch have developed a strong influence in the central level decision making. *"In central level planning [in Bangladesh] we (Dutch) are quite involved"* <1>. The permission of the Prime Minister to start exploring the possibilities of the Delta Plan in Bangladesh was an important first step to start the BDP promoted by the Embassy of the Kingdom of the Netherlands (EKN). A first analysis was done by a Delta Preparatory Team, who were the first explorers of the Delta Plan, between Dutch and Bangladeshi agents. After this, the creation of a Memorandum of Understanding (MoU) gave a new base for cooperation. The emphasis was on finding investment mechanisms by then (Hasan, Evers, and Zwarteveen [in preparation](#)). These smaller steps of cooperation and commitment were important to maintain the environment and tendency before the formation of a new Parliament.

The idea of the creation of an investment plan was a clear suggestion to attract the interest of many related government bodies to work together. This was done by the Planning Commission and GED inside it. *"The leadership of the planning commission has been quite strong. It's about leadership, convening power, those kind of things. This has worked."* <1>. Their role, as central (economic) agency gave strength and importance to the development of the plan, in contrast to what BWDB or WARPO could have done with their current profiles. *"They could have prepared a good one, but it would not have been implemented"* <2>. In order to continue this, the insurance of the Delta Act, to create a Delta Fund and a Delta Commission will be promoted by the Dutch (Hasan, Evers, and Zwarteveen [in preparation](#)).

In this point is interesting to question to what extent, is the authorizing due to the technical and knowledge abilities of the actors involved (Hasan, Evers, and Zwarteveen [in preparation](#)), especially taking into account the restricted leadership of the traditional water organizations in Bangladesh (WARPO and BWDB) and their past efforts and knowledge.

The development of the authorizing environment was a strategy that enabled the creation and work of the teams A and B. This was possible only through a high level commitment / intervention from the Prime Minister and from her, down going to the Planning Commission. This organization and strategy has been the one that brought different actors

and projects together, although no big experimentation has been done. This authorizing environment is still quite top level compared to the problems the plan tries to address, yet it is a strong and recognized actor on the country for this stage.

#### 4.3.3. ACTIVE AND EXPERIENTIAL LEARNING BY ITERATIVE FEEDBACK OF LESSONS

PDIA proposes *active, ongoing, and experiential learning through iterative feedback of lessons, to build new solutions*. This was developed as a question:

*Were there learning processes involved, how were they? Where they feedback lessons to enhance capacity?*

It has to be said in this subsection that little was done to develop experiential learning there, but some workshops and stakeholders management sessions (Hasan, Evers, and Zwarteveen [in preparation](#)). A set of projects were proposed by different ministries, however no actual local learning is developed so far by doing BDP2100, and even less in the form of learning by doing. The lessons came from the past in the high level governance regarding to who to work with, like preferring Planning Commission over the Ministry of Water Resources <2>, but not in the local capacities.

The initiative of developing of the BDP2100 was itself a result of a group of lessons from past experiences after working in the National Water Management Plan with WARPO and seeing it as an unsuccessful implementation. This, however, has been restricted to a group of lessons learned for the high political sphere in Bangladesh, and probably more from the Dutch (donor) side. It is important to point, however, that the learning process in the bottom of the structures is still to be developed and gain independence to learn and build capacities. The iterative learning process here was in a different layer compared to the problems the BDP2100 wants to address.

#### 4.3.4. AGENTS ENGAGEMENT TO ENSURE POLITICALLY SUPPORTABLE AND IMPLEMENTABLE REFORMS

The final big consideration of the PDIA methodology comes from *"engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable"*. This was translated into the following question:

*Which actors/agents were involved to legitimate the actions proposed that could enhance trust of the initiative?*

The previous steps have mentioned the importance of the change of the main agency responsible for the BDP2100 development, the GED of the Planning Commission. This decision came from the the Prime Minister directly, and was about deciding over WARPO and BWDB <1,2,3>. This however, was the beginning of the expansion of intervention of other actors. The power of the General Economics Division of the Planning Commission remained in the ability to transform the projects that passed through them into monetary terms. Also, because part of the negotiations with BWDB and other agencies to join, came by pursuing that most of their projects would be pushed to be actually implemented. The framing that GED had to do with BWDB and other opposing agencies was related to the

strengthening capacities of these institutions from the Delta Commission platform (Hasan, Evers, and Zwartveen [in preparation](#)).

The intervention of the Dutch also helped to enhance this engagement capacity for the Delta Plan. Their role as an "outsider expert" helped to build the institutional and knowledge basis. *"It wouldn't have been possible for me to just develop that way of organizing people as it worked with the Dutch (...) Let us say that they acted as a catalyst"<3>. "We had the responsibility to lead (GED), but [the Dutch presence] definitely helped"<2>.*

The participation of focal groups from other ministries was an important part of the participation of other actors from the government of Bangladesh (Hasan, Evers, and Zwartveen [in preparation](#)). The work of team B, helped to translate part of the language from the first versions of the plan -which had the scenario vision not too grounded on Bangladeshi context - into an economical and political language "easier" to understand for policymakers, expanding the actors engaged through this.

A critical set of actors that were engaged from the very beginning were the "money owners", World Bank and Asian Development Bank (ADB) <3,6>. *"[It was agreed that] the plan needs political support and support from International Financing Institutions (IFIs), and donor agencies equally. Embassy of the Netherlands in Bangladesh and GED are suggested to work together to obtain the required support"* (Hasan, Evers, and Zwartveen [in preparation](#)).

There were, however, some points that didn't help including broad sets of actors. Some actors were reluctant to facilitate the process, as it was a donor-driven initiative. Also, no representation from political parties and local NGOs was present during the project development, which was actually announced in the preparatory documentation (Hasan, Evers, and Zwartveen [in preparation](#)).

From the top level political initiative, the related-actors engagement was relatively highly "developed", especially regarding ministries interconnection and project planning. However in a more holistic way, during the consultations the work done could have been better with other parties outside the strictly required for authorizing the Delta Plan, in a more local and problem driven way. This shows that the capacity of engagement of this project was high in the area it was focused (high-level), however in the implementing part, the commitment has to be enhanced even further.

#### 4.4. ANALYSIS FROM BDP2100'S PERSPECTIVE

In order to process the information from the interviews in a form in which PDIA and IT frameworks can be evaluated, each interviewee is rated to see if it supports or contradicts the statement for each parameter. A ✓ shows if that interviewee supports that statement, if on the contrary, is not and actually shows arguments that contradict the main idea of the parameter, a cross (X) is marked. Sometimes there are arguments from both sides, and thus a ✓ and a X are marked in the same cell. A gray box means that that interviewee didn't relate to that parameter. Figure 4.5 shows this results summarized, where interviewee <23> is the same as (Hasan, Evers, and Zwartveen [in preparation](#)).

The development of the BDP2100 brought benefits and problems from both perspectives, the donor and the beneficiary sides. From the information pointed in this chapter, the following 'main benefits' were taken according to was are the interests of the beneficiary and donor sides. The "donor" here is taken as the agent that is promoting the delta

Institutional Transplantation												
Parameter	Heuristics for Institutional Transplantation at	1	2	3	4	6	7	13	14	23		
1	Strengthen the position of international proponents of change	✓	✓	✓	✗	✓		✗		✓		✗
2	Avoid 'xeroxing' (copycat transplantation) - use multiple models and go from the general to the specific		✓			✓	✗					✗
3	Hire and use proactive institutional entrepreneurs		✓	✓		✓						✓
4	Recognise and use windows of opportunity when they appear	NA	✓	✓				NA				✓
5	Account for cultural and administrative differences and similarities	-	✓	✗	✗					✗		✓
6	Use only neutral or positive symbols			✓	-	✓				✗		✓
PDIA												
Core principles of PDIA:												
7	Aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors		✓	✗	✗			✗				✗
8	Creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"	✓	✓	✓		✓						✓
9	Active, ongoing, and experiential (and experimental) learning and the iterative feedback of lessons into new solutions			✗								✓
10	Engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable	✓	✓	✓								✓

Figure 4.5: Interviewees analysis on BDP2100 per parameter.

plan in terms of the long term involvement and possible financial benefits in the future by implementing the plan, and the "beneficiary", as the government or citizens involved, who seek for benefits for the local development.

With this clarification made, the following are the benefits selected, pointing the beneficiary of it, if it's the donor, the beneficiary or both:

- The development of a National Delta Plan that included multiple ministries and high level organizations - **Donor and Beneficiary**
- The long term perspective brought to Bangladesh - **Donor and Beneficiary**
- Money flow will be increased to Bangladesh by the plan development through international agents - **Donor and Beneficiary**
- Long term commitment for the Dutch in the Delta Plan development and implementation- **Only Donor**

The *Long term commitment for the Dutch in the Delta Plan development and implementation* is considered here as being a benefit only for the donor, as it is something that, in principle, is only directly beneficial to them.

On the other hand, the main difficulties pointed out were:

- Low level of field stakeholders engagement and motivation on the plan development - **Only beneficiary**
- Until now, uncertainty about how will it actually perform and how capacities will be developed by each of the projects in the investment plan - **Donor and Beneficiary**

For the difficulties pointed out, the *Low level of field stakeholders engagement and motivation on the plan development* is considered to be only relevant for the beneficiary country, as in principle and from a purely business perspective, the donor wouldn't be necessarily interested in developing local capacities *per se*.

Doing this 'radical' distinctions would help to understand better the possible advantages and limitations when thinking about the Delta Plan's impact from the very local and very 'outsider' perspective.

In order to see which are the most influential parameters from either the PDIA or the Institutional Transplantation Framework (ITF) that contribute to the improvement or downgrading of the BDP2100 project as a whole, the benefits and challenges/problems of the project will be compared with the evaluation of each component of the framework in the BDP case. This evaluation is classified as *green, yellow or red* whether the analysis of each step correspond to an *adequate, partly or insufficient* execution of the parameter from the framework, respectively. This is summarized in Figure 4.6 and explained below.

Institutional Transplantation			Questions to analyze Case Study	Example Case Study - BDP2100	Main benefits of BDP:	Parameters that help										Parameters that affect									
Parameter code:	Questions to analyze Case Study	Example Case Study - BDP2100				Affected:	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9
1	Strengthen the position of international proponents of change	Which and how were international actors engaged to participate in the initiative?	This was one of the Netherlands' highly recognized firm knowledge and best experiences. This advantage though, is not exempt of doubts about the actual help they bring and their interests behind the kind of cooperation. The international position of the Dutch is reinforced and supported by the movement of other actors such as the World Bank or Asian Development Bank.	The main partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	The development of a National Delta Plan that included multiple interests and high-level organizations.				X	X	X														
2	Avoid "rearing" (look at transplantation) - use multiple models and go from the general to the specific	Was there a copycat translation of an idea? How was the process of bringing/implanting a foreign idea into the beneficiary country? To what extent was it actually "copy" of ideas?	The strategic partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	Strong change deeper understanding as the window of opportunity to develop the Bangladesh Delta Plan, opening a gap in knowledge and awareness in Bangladesh through the Dutch lenses.	The long-term perspective brought to Bangladesh.	X	X	X	X															X	
3	Use and use proactive institutional entrepreneurs	Which were the actors promoting the development in the local context?	The strategic partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	Strong change deeper understanding as the window of opportunity to develop the Bangladesh Delta Plan, opening a gap in knowledge and awareness in Bangladesh through the Dutch lenses.	Money flow will be increased to Bangladesh by the plan development through international agencies.	X	X	X	X																
4	Recognise and use windows of opportunity when they appear	What windows of opportunity occurred to implement the initiative? Was there a feeling of crisis or emergency around it?	The strategic partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	Strong change deeper understanding as the window of opportunity to develop the Bangladesh Delta Plan, opening a gap in knowledge and awareness in Bangladesh through the Dutch lenses.	Long-term commitment for the Dutch in the Delta Plan development and implementation.	X	X															X			
5	Account for cultural and administrative differences and similarities	How were divergences tackled by the donor agents? In which extent were they managed?	The strategic partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	Strong change deeper understanding as the window of opportunity to develop the Bangladesh Delta Plan, opening a gap in knowledge and awareness in Bangladesh through the Dutch lenses.	Low level of field stakeholders engagement and motivation on the plan development.					X							X	X	X	X	X	X			
6	Use only neutral or positive symbols	What symbols are present around the initiative that reinforces the positive image or results of it? Are there negative symbols or connotations around it?	The strategic partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	Strong change deeper understanding as the window of opportunity to develop the Bangladesh Delta Plan, opening a gap in knowledge and awareness in Bangladesh through the Dutch lenses.	Useless, uncertainty about how will it actually perform and how capacities will be developed by each of the projects in the investment plan.	X	X													X	X				
7	Core principles of PDIA	Questions to analyze Case Study	Example Case Study - BDP2100	Main challenges of BDP:	COUNTRY	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
7	Aims to solve particular problems in particular local context, as nominated and prioritized by local actors	What problem(s) were defined and how were the problems (and applicable solutions) defined in this project? Who developed the definition of the problem?	The aim of the BDP2100 is to solve a problem defined in the local context, as nominated and prioritized by local actors.	Low level of field stakeholders engagement and motivation on the plan development.						X							X	X	X	X	X	X			
8	Creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"	Was there an authorizing environment to develop the initiative? From which and how was this support developed/implemented, and make the changes to the proposed development?	The development of the authorizing environment was a strategy that enabled the creation and look of the BDP2100. This was possible only through a high-level commitment from the Prime Minister and from her down, going to the Planning Commission. This authorizing environment is a key to the next step: to create the problem-solving capacity to address the implementation.	Useless, uncertainty about how will it actually perform and how capacities will be developed by each of the projects in the investment plan.	X	X														X	X				
9	Active, ongoing, and experimental (and experimental) learning and the use of feedback to increase capacity	Were there learning processes involved, how were they? Were they feedback loops to enhance capacity?	The strategic partner for the development of the BDP2100 is the GEDDI, the Planning Commission. This actor worked as a point of union in the high government and state level commitment. The doubt about the real stability of giving the leadership to an Economic Department will only be answered during the development and implementation of the Bangladesh Delta Plan for the planning stage it is used.	Low level of field stakeholders engagement and motivation on the plan development.																					
10	Engaging broad sets of agents to ensure that reforms are viable, legitimate and relevant - that is, are politically responsible and practically implementable	Which actors/agents were involved to legitimize the actions proposed that could enhance trust of the initiative?	From the top-level political level, the related actor engagement is a high-level commitment from the Prime Minister and from her down, going to the Planning Commission. This authorizing environment is a key to the next step: to create the problem-solving capacity to address the implementation.	Useless, uncertainty about how will it actually perform and how capacities will be developed by each of the projects in the investment plan.																					

Figure 4.6: Matching BDP2100 evaluation from PDIA and ITF with the challenges and benefits of the project as developed so far.

For each benefit and challenge, all the components of both frameworks are compared. Then a question is set like this: "Is this X benefit/challenge caused by Y parameter of the framework in the BDP case?" If the answer is a clear *yes*, then a green line connects to point that parameter of the framework with the benefit/challenge if it is a positive cause, and red if it is causes a negative effect.

After evaluating each one of the causes, they are counted to define which parameters are the ones that have most impact in the overall benefits and challenges, as well as to see what parameters would benefit donor or beneficiary initiatives more profoundly.



#### 4.4.1. CONCLUSIONS FROM THE PDIA AND IT FRAMEWORKS TOWARDS THE BANGLADESH DELTA PLAN

After doing the development of the analysis and shown in Figure 4.6, the following conclusions can be drawn from it:

1. The parameter from the frameworks that helps more benefits are parameters 1 and 3, which are respectively *"Strengthen the position of international proponents of change"* and *"Hire and use proactive institutional entrepreneurs"*. This two factors are the most important ones contributing to the benefits encountered for the Bangladesh Delta Plan 2100 in the perspective of the donor and the beneficiary.
2. The most critical parameter that threatens the benefits (so far) of the development of the BDP2100 is the lack of *"aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors"*.
3. The parameters that worsen now the challenges and problems of the BDP2100 case are around the poor *"aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors"* and also the lack *"active, ongoing, and experiential learning and the iterative feedback of lessons into new solutions"*
4. On the other hand, the parameter that could help improving the challenges in the BDP, if continued and expanded is the *"creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"'*. This is already there to some extent in the BDP, but it should be enhanced in grater ways to help overcoming the challenges of low stakeholder participation and uncertainty about the future actual implementation.
5. The majority of the advantages for the BDP2100 case in the current stage come from the Institutional Transfer Framework, where it suits and shows that the process taken to develop the Delta Plan could be described to a great extent by this framework.
6. On the other hand, the majority of the overall challenges come from not including factors related to PDIA in the BDP2100 process, showing the quite supply oriented nature of the Bangladesh Delta Plan formulation process.

A more comprehensive conclusion and analyses will be done in chapters 6 and 8, where it will be compared with the results from the TRM case.

Next chapter will explore the other case study of this project, around Tidal River Management initiative, with a similar analysis through the lenses of Problem Driven Iterative Adaptation and the Institutional Transplantation Framework.



# 5

## COASTAL MANAGEMENT INITIATIVES: THE DEVELOPMENT OF TIDAL RIVER MANAGEMENT - ANALYSIS FROM PROBLEM VS. SOLUTION DRIVEN APPROACHES

This chapter will present the second case study of this research, which explores the Coastal Management initiatives developed in South Western part of Bangladesh until the development of Tidal River Management (TRM) initiative, which is the main focus. An analysis is done from the data gathered through the scopes of Problem and Solution Driven Approaches. For the rest of the document, the term TRM case and Coastal Management Initiatives case will interchange, pointing to the same information presented in this chapter.

As in the previous chapter, first some background information will be presented that explains better how TRM came to be a solution to solve water logging problems in a specific region in Bangladesh, as well as the actors involved on it. After presenting this, an analysis from the information gathered will be analyzed through the Institutional Transfer (IT) and the Problem Driven Iterative Adaptation (PDIA) frameworks. In the end of the chapter the conclusions are presented regarding this analysis and the highlights from it.

### 5.1. BACKGROUND INFORMATION AND OVERVIEW

The concept of TRM cannot be clearly understood without clarifying the nature of the South-Western part region of Bangladesh. As presented in chapter 3, the region is highly dynamic in multiple aspects: geographically, environmentally and, more recently, socially. This part of the delta is one of the most dynamics one, especially regarding the tidal activity, as can be seen in Figure 5.1. The region, until 1950 was a big floodplain that allowed the tidal activity to come and go twice a day. Before this, local people used to make temporary embankments for protecting monsoon crops in their land.

This tidal activity, as it was perceived then, was unfavourable for agricultural production there. The development of solutions then proposed by the United Nations through the Krug Mission, as a first Master Plan in Bangladesh, recommended (among other things) the "construction of massive flood control structures and drainage improvements to increase agricultural production in Bangladesh" (Gain et al. 2017). This initiative built around 4.000

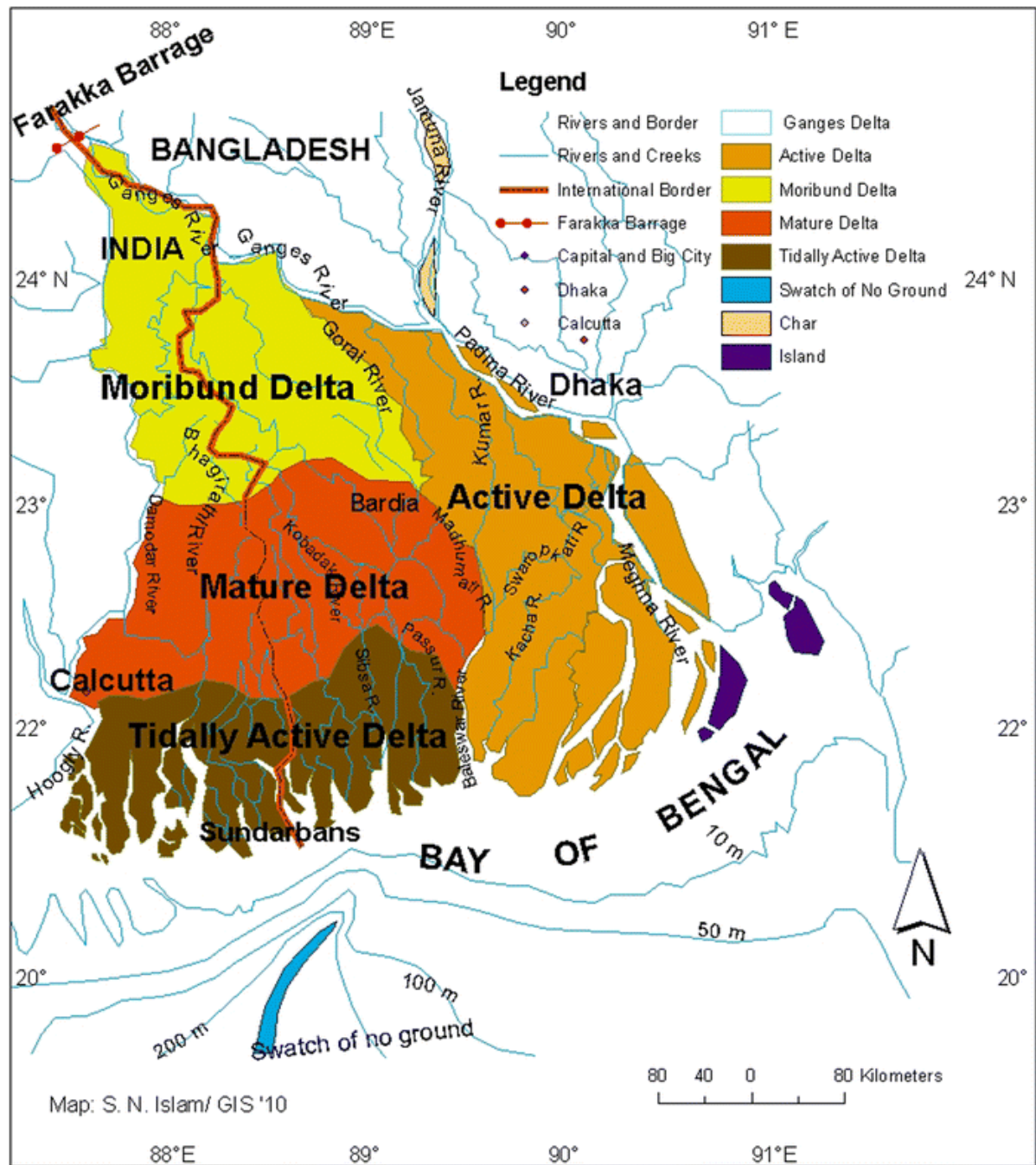


Figure 5.1: Tidal active region in the South West part of Bangladesh (Islam 2016)

km of embankments in 1959, in a project which is known as *Coastal Embankment Project* (CEP), financed by the World Bank.

The project succeeded to control and reduce the tidal activity in great part of Bangladesh which was exposed to tidal inflow. Agricultural crop production increased 2 and 3 fold (Awal 2014) compared to the initial condition. However, two major things happened which changed, over time, the dynamics of the South-West region and a new problem arose. First, lack of Operation and Maintenance (OM) in the polders and sluice gates, negative impacts, such as sediment deposition in the gates appeared. Added to this, in India the Farakka dam

was built in 1976, which reduced the upstream water flow coming from the Ganges river and its distributaries, affecting the Khulna-Jessore area (Gain et al. 2017) and worsening the siltation growing problem caused by the CEP. Figure 5.3 shows some of the changes over time on siltation in the rivers, due to heavy sediment inflow with the tides and low runoff during dry season in Bangladesh.

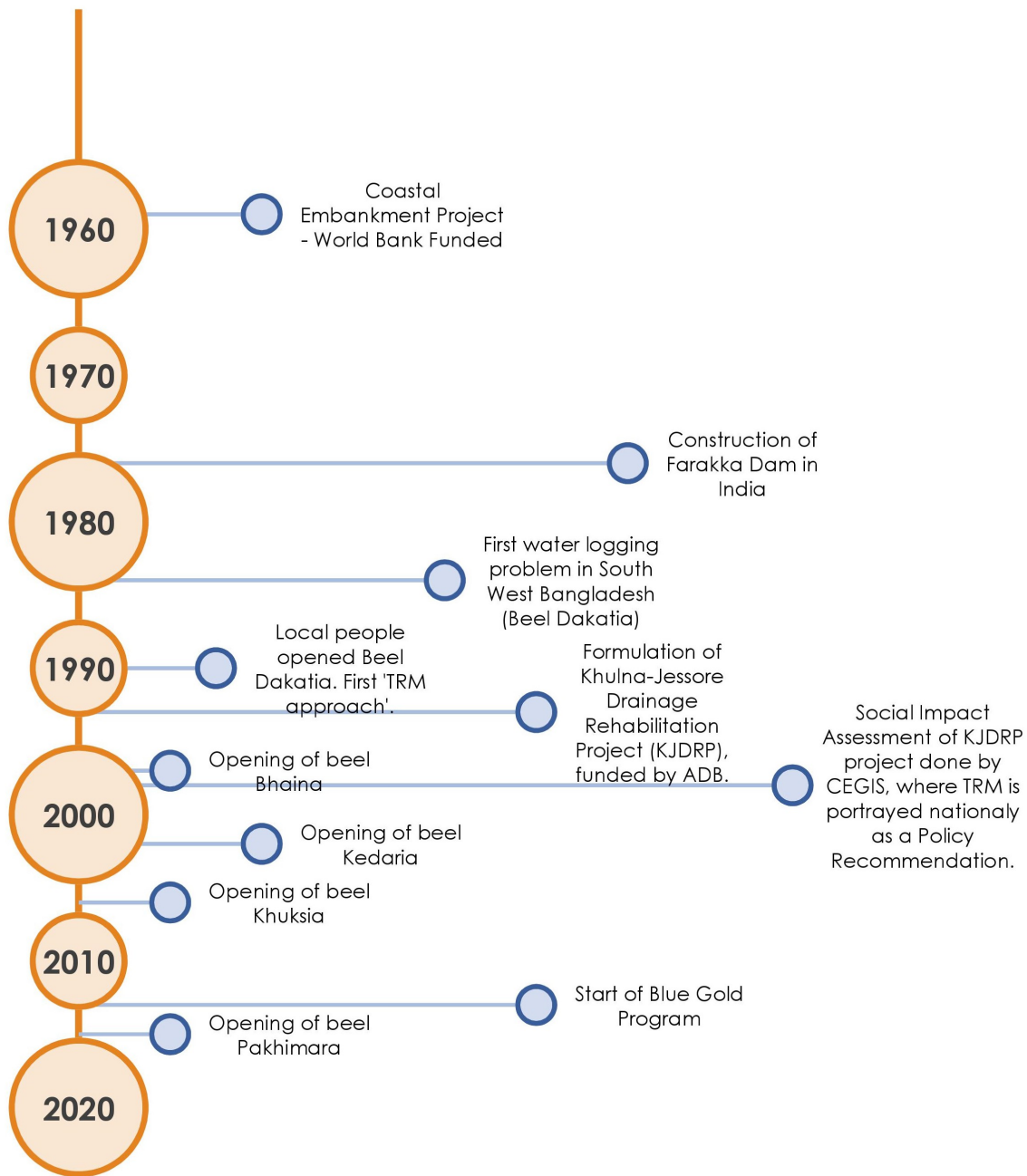


Figure 5.2: General overview of coastal interventions in the South-West Bangladesh.)

An acute effect of this siltation in the rivers surrounding the polders was the waterlogging inside the polders. Low lying lands which are inundated during floods (known as *beels* in Bangladesh) started to retain water for longer periods due to siltation in the surrounding areas. The first example of this water-logging was in beel Dakatia in 1984, where rivers Sol-

mari, Hari and Hamkura were silted and water couldn't come out the beel (Awal 2014). The problem of this siltation is now that the river bed was increasing and the beels were still a low lying land, thus the water-release during rainy season started being a major problem there (see Figure 5.4 to refer to the level difference problem due to siltation). The area that became waterlogged increased up to 100.000 hectares in the Khulna, Jessore and Satkhira districts. "As a consequence of permanent waterlogging, the socio-economic conditions of the local people have been impaired and ecosystem services have been reduced through destruction of houses, disruption of communications, loss of biodiversity, loss of livestock, fuel poverty, drinking water scarcity, fecal contamination of water, water-borne diseases, deprivation of education (as many schools were closed) and migration" (Gain et al. 2017; Hossain et al. 2016).

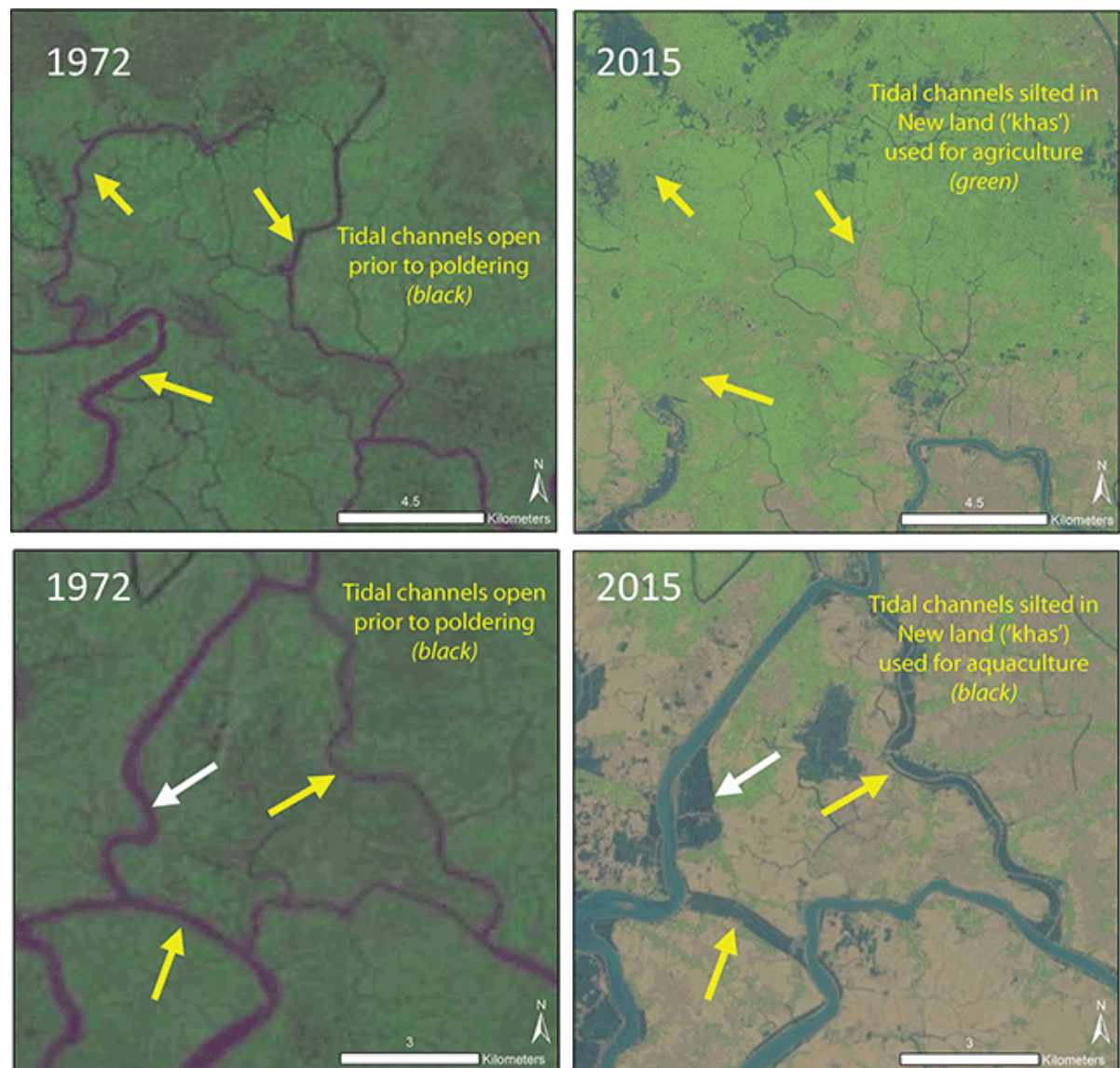


Figure 5.3: Silted tidal channels in South West. Compare the pictures on the left side with the ones on the right side. (Wilson et al. 2017)

As an exploration to solve this water-logging problem, a project was formulated between the Asian Development Bank (ADB) to rehabilitation the regions that were affected

by this problem. The name of it was *Khulna-Jessore Drainage Rehabilitation Project (KJDRP)* (ADB 1993). "The principal objective of the *Khulna-Jessore Drainage Rehabilitation Project* was to reduce poverty to below 60 percent by increasing agricultural production and creating on-farm employment in the project area. The objective was to be achieved by (i) mobilizing beneficiary participation in the design, implementation, and subsequent operation and maintenance (OM) of the project facilities; (ii) rehabilitating the existing drainage infrastructure to reduce congestion and protecting the project area from tidal and seasonal flooding; (iii) providing support for the expansion of agricultural extension services that was necessary as flooded lands were returned to productivity; and (iv) improving the management of fisheries in polder areas to ensure a continuing supply of noncommercial fishes caught and consumed primarily by the poor" (ADB 2007a).

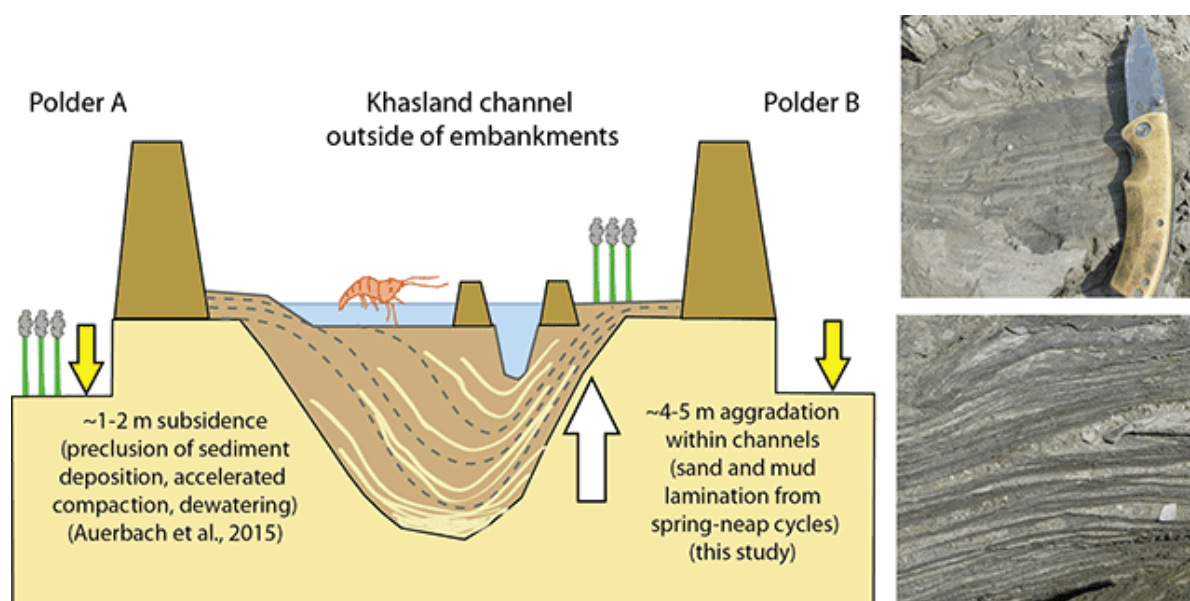


Figure 5.4: Silted tidal river example (Wilson et al. 2017)

As part of the studies required to develop the initiative, the ADB asked the *Center for Environmental and Geographic Information Services (CEGIS)* - called back then *EGIS* - to develop an environmental and social impact assessment study that could analyze the different options to consider in implementing the *KJDRP* project through the *Bangladesh Water Development Board (BWDB)*. This work with the communities of that region showed the possibility of using local indigenous knowledge as a feasible technical and social option to restore the drainage of that area (Momtaz 2003; ADB 2007a and ORIGINAL CEGIS DOC). This indigenous knowledge consisted of breaching an embankment that could allow the scouring of adjacent river bed by depositing the sediments within the beels (Staveren, Warner, and M. S. A. Khan 2016). This process was named as *Tidal River Management (TRM)* and was considered the best option by then, to develop a rehabilitation project in that specific area, as the conditions of tidal activity and upstream flow were suitable. Figure 3.3 shows how TRM works.

It is important to mention here that there are other initiatives that try to develop the challenges faced inside a polder, with a smaller but more locally empowering focus: the *Blue Gold program*, funded by the Dutch government (*Blue Gold Program 2018*). This project aims to develop the local capacities of the people inside the polder, has a limited

scope of how to solve the issues faced within a polder. Although analyzing the effects and causes of this program won't be the focus of this chapter, as it is a smaller-scale initiative compared to the larger (more complex) water-logging problem, it is relevant to mention it, especially as it is recognized by many local people as an initiative that encourages local participation and involvement <17, 18, 21>.

The first beel that started with the operation of TRM, developed completely in a local basis was beel Dakatia in 1990, and is considered until now the best case of TRM implementation. After this initial beel was proven to be successful, it was mandated to the respective government agency to implement TRM in that region; this agency is the *Bangladesh Water Development Board* (BWDB). A further detail of the TRM implementation will be explored through this chapter, however Figure 5.2 shows a general overview of the events around it.

### 5.1.1. ACTORS AND INTERESTS IN PLAN DEVELOPMENT

The actors involved in the development of the TRM initiative can be seen schematically in Figure 5.5. There are some critical actors which are important to highlight.

The main responsible for implementing TRM in the south west region now is the BWDB. They have the task of *"Providing management guidelines and necessary assistance to local and community organizations and the local governments for OM of schemes with command area below 5000 ha"* as well as *"Transfer of rehabilitated/operating projects of 1000ha or below to the local governments"* among others (BWDB 2018). This means that all the water management related activities and coordination relies on them in Bangladesh.

The other actors are more the local leaders, NGOs which are involved (and which will be later pointed out in more detail) and the Local Government Agencies, which have the responsibility of the land management for each region.

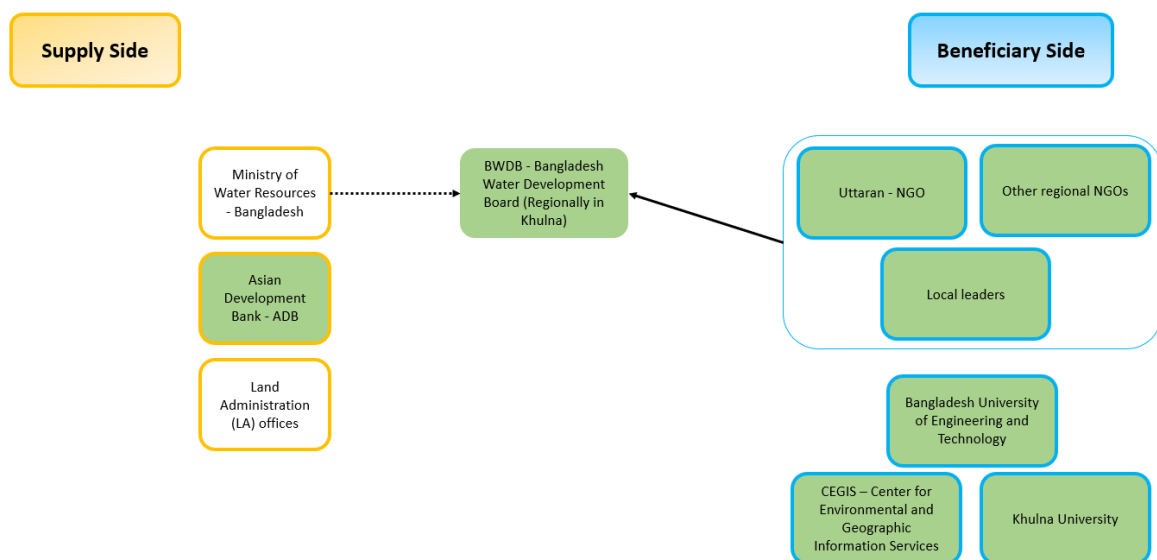


Figure 5.5: Set of actors involved in the development of the Tidal River Management initiative, the color legend is yellow for the 'supply side' and 'blue' for the beneficiary side. In green the actors which were interviewed are highlighted



With this presentation made so far, the next two sections will analyze the TRM case from the lenses of Institutional Transplantation and Problem Driven Iterative Adaptation frameworks. Appendix C has a broader set of data of the interviews held.

## 5.2. INSTITUTIONAL TRANSPLANTATION

Table 3.2 shows the questions developed for the Institutional Transplantation (or supply side). After analyzing and grouping the information from the different actors involved in TRM, the answers shown present what was applied from the Institutional Transplantation Framework.

It can be seen that some factors don't apply strongly for this case, as still TRM is very locally developed, and thus there is not much international involvement.

### 5.2.1. THE POSITION OF INTERNATIONAL PROPONENTS OF CHANGE

The first item of the ITF suggests that, for an adequate institutional transplantation, "*strengthening the position of international proponents of change*" has to be done. In order to analyze this in TRM's case, the following question was posed:

*Which and how were international actors engaged to participate in the initiative?*

The international involvement around different development projects in the South West region in Bangladesh is not something new. In the previous section some background information provided partly the international involvement of international agents in the development there, however this story goes back to projects such as ISPAN (Irrigation Support Project for Asia and Near East) supported by the government of the United States and the Flood Action Plan (FAP) in 1992 with even more international donors such as the United Kingdom and the Netherlands <11>. Later through the development of ISPAN, the Dutch developed the institutional setup for EGIS-I and II and later to be what today is CEGIS as an institution <11>. Even during the early analyses of TRM, Dutch actors were involved through CEGIS to technically develop what is today known as TRM, giving some more technical concepts that would enhance it and give a long term perspective.

Some problems have also been a common trend in international intervention around this area and problems. The main problem mentioned is the Coastal Embankment Project (CEP), which was a first international intervention that, although helped for around 15 or 20 years to the agricultural development of the area, it actually was the cause of future problems such as water logging. Regarding the effects of this project, a local organization said that the CEP "was another man-made disaster" in the region <16>.

The "polderization" of the south western part of Bangladesh was part of the Master Plan proposed by IECO in the 1960s, an American consultant with Dutch intervention, however "Many rivers have died there due to the deltaic process... But we didn't allow the river to expand. We made interventions (polders). They restricted the river to take its action" <4>. So actually this international intervention, which was a help by then is part of the problem now.

After this happened, with the KJDRP project a more detailed analysis was done before doing wrong interventions, this step opened the door for CEGIS to come in and complement the work done by BWDB by an Environmental and Social Impact Assessment. This

was asked by the Asian Development Bank as part of the conditions to develop the project <9>. The following was the final evaluation of KJDRP project financed by the ADB. In their own word, *"overall, the Project is assessed as unsuccessful but borderline partly successful in contrast to the successful rating assigned in the project completion report (...). The evaluation found the Project to be partly relevant, less effective, inefficient, and less likely to be sustainable"* (ADB 2007a).

The way different actors engaged here was quite straightforward, the ADB was financing the project, also pushing adequate assessment before jumping to implementation. The local agency in charge of implementing the project was the BWDB. Actually, apparently the development of TRM as a whole came as a 'reaction' from the implementation that BWDB was going to do of KJDRP project. After that reaction, ADB asked CEGIS to develop the EIA studies, which opened up the space and gave voice to local initiative. The role of the Netherlands so far in TRM, has been "with intellectual involvement to develop of Tidal Management System. That should be the role of the Dutch, and not so much in doing at all". Actually the only strong international actor around TRM was the Asian Development Bank <9>, but more in a soft way and not much on hard infrastructure investment. Although ADB was there, the reason to leave was that KJDRP was not successful and that there was no adequate development. It is now fully on hands of the government <6>.

From the past international intervention hasn't gotten the best representation regarding this kind of interventions, however there were some points highlighted by local actors that could be useful. Some local organizations said that it could be useful as *"you get some strategy direction. It should be basin-wise"*<3>. As some initiatives in Bangladesh are weak when they come from the bottom, *"there must a a constant support, either from the local government or from international organizations"* <8>. There are some international NGOs which have related to TRM, although in a weak way so far (Both Ends and Gomukh 2005). Also, from the other perspective, a local NGO said: *"to unclog this problem [we need] is the local people. We have to solve it ourselves first, that's between BWDB and local people - it's a relationship - the more people involved, the more difficult. Maybe after setting the dispute, they can help to scale it up... or replicate it to other parts of the world. But the family problem has to be solved first"*<15>.

The engagement of international actors around the problem that TRM aims to solve has been varied and from long time ago. What international cooperation "solved" many years ago around the agricultural productivity, is the cause of the problem of today. Local people see that the CEP, which was useful in the past is causing problems now with water logging. This plus the initial KJDRP intention to build more sluices made a defending reaction on the locals, who still see the foreign image weak regarding this type of -very- local interventions. A point that could favor is if a strategy is developed that could give empowerment to the local people.

### 5.2.2. COPYCAT TRANSPLANTATION? - GO FROM THE GENERAL TO THE SPECIFIC

The second point recommended by the ITF is to *"avoid 'xeroxing' (copycat transplantation), by using multiple models and going from the general to the specific"*. This was translated into the following question to TRM:

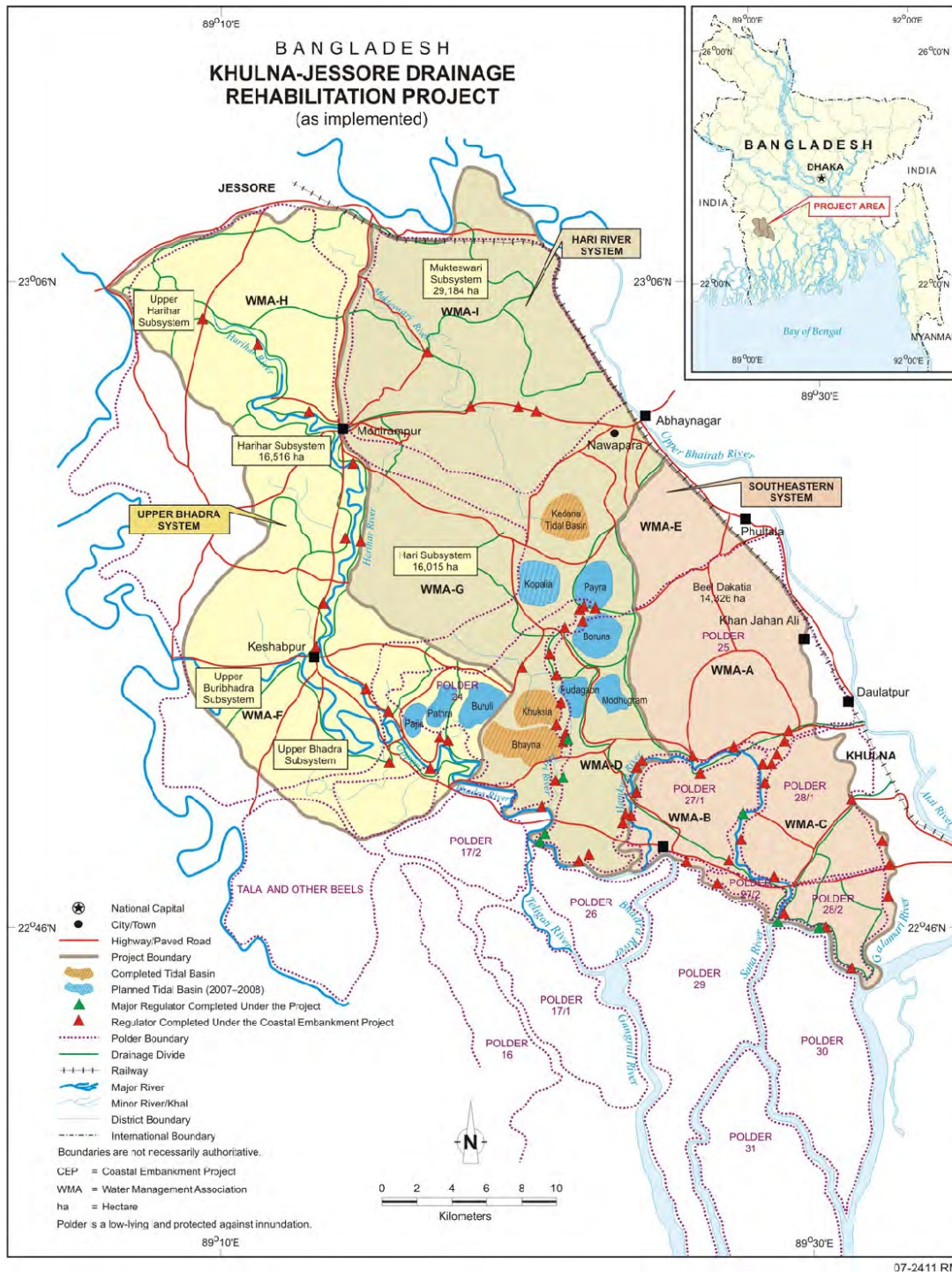


Figure 5.6: Summary of TRM development after finalization of Khulna-Jessore Drainage Rehabilitation Project. See Completed Tidal Basin vs. Planned Tidal Basin points (ADB 2007a)

*Was there a copycat translation of an idea? How was the process of bringing/implementing a foreign idea into the beneficiary country? To what extent was it actually a "copy" of ideas?*

The main point that relates to the development of an idea that was literally translated was, in the 1960s the polderization of Bangladesh as a 'copy' of what the Netherlands has. Although with the local conditions of Bangladesh, it was done in a context where the hydrodynamics are very different, and that is one of the causes that made the CEP a partial success when seen from today's perspective (Choudhury, A. Paul, and B. K. Paul 2004). Also, the differences between regions in Bangladesh had a major impact on the efficiency of the solutions that the embankments provided <15>.

Later, learning from the past experiences, the ADB steered the direction of the KJDRP project towards a more participatory experience, which changed the perspective from structural to soft solutions <4>.

The copycat transplantation hasn't happened *per se* in the TRM case, but in the past experiences. And that has been a lesson learned, that even though local developed solutions might work in the Netherlands - for instance - a completely different geographical and social dynamics has to be build in the new region to implement.

### 5.2.3. PROACTIVE INSTITUTIONAL ENTREPRENEURS

The third point of the Institutional Transplantation Framework states that *proactive institutional entrepreneurs should be hired and used*. The following question arises to know to which extent this happened in TRM's case:

*Which were the actors promoting the idea/project in the local context?*

The agency in Bangladesh in charge of leading the KJDRP project was the Water Development Board (BWDB). They were still the leading agency even when KJDRP changed the direction and went more on TRM direction. This was, however, a challenge that faced serious difficulties in the local context (ADB 2007a).

One of the main challenges faced when implementing TRM was regarding the leadership taken by the BWDB to deal and implement TRM. In words of a local researcher: *"I think the implementing agency didn't take much interest in the operation of TRM, because their original interest was in building big infrastructures, so once that was robbed. They were not interested in this community organized solutions" (...)* They adopted TRM, but they were a reluctant observant. They were expecting it to fail, because for it to be successful, you need to be deeply involved with the community as implementing agency, you need to encourage them, patronize them, you need to seat with the people from the beels and motivate them. <4>. *"The trust has been broken to a level in which is difficult to recover. I would say that trust from both sides, not just BWDB"*, saying that also local people didn't follow their words initially planned <4>. It is mentioned by numerous actors that if there is no money involved in the development of a project, then actors are not eager to help developing that project <4, 11, 15, 16>, to a point to say that BWDB was the *"most unpopular department in the South West region"* <16>.

The responsibility BWDB had was around technical assistance on developing Water Management Associations (WMA) through information campaign, developing periodic impact assessment studies, as well as helping with the land acquisition, compensation and resettlement plan. Creating a legal framework was also part of their responsibility for the registration of WMA. Finally they had to *"recommend modifications of existing legislation or proposing new legislation to allow the registration of WMAs as legal entities"* (ADB 2007a).

As will be seen further, much of this work was perceived as null or very weak from different parties involved. In the conclusions from the KJDRP project, the *"Technical Assistance for institutional strengthening of BWDB was less effective as it did not create any added capacity for engaging with local communities. There was a substantial departure from the original project design with the construction of 111 km of roads where none were envisaged in the original design"*. (ADB 2007a).

As part of the challenges faced by BWDB as implementing agency of TRM, many recommendations were proposed to steer the leadership of such agency. The main proposal was a change in attitude and "mentality" from BWDB's side. It has to be a stronger institution, with initiative and have to take the project in their hands. "Is their project" <4,12,15>. They have to convince the local people that they are there to help and support them. Also the corruption factor was mentioned: *"I think most people in BWDB are corrupted, is my perception. If they get 6 crore, they spend 2 or just 1 crore"* <19>. This could be supported by the difficulties also mentioned by the ADB, as one of the most important issues that made the whole KJDRP project as unsuccessful: an issue was *"the institutional culture within BWDB, which is focused on structural engineering solutions despite the merits associated with non-structural solutions"* (ADB 2007a).

Another consideration which came up was that things had to go in the forced way sometimes to work, as a tragedy as a 'window of opportunity'. This shouldn't be desirable though <4>.

When deepening into how should these changes be made or by whom, many interviewees agreed that a higher level of authority should intervene, called either the Ministry of Water Resources <4>, which could make use of the political power obtained. However, some are also reluctant of the higher authorities to favour an initiative like TRM where money flow is way less compared to dredging, which is a more common (and expensive) solution <12>. Unfortunately, it seems that now no one is actually leading the TRM process, and the leadership that BWDB has now is felt as pushed by the local people rather than own motivation from this organization <11>.

The role of BWDB as the implementing agency of TRM has been heavily criticized from multiple sides and is one of the weakest points of TRM implementation. The role of BWDB as a local actor to promote the TRM idea has been prejudicial to actually not only implement TRM, but actually to connect with local people and strengthen the local capacities that is required by socially-driven initiatives such as TRM. It can be said that, from the perspective of ITF, the entrepreneurship role of the implementing agency was almost none.

#### 5.2.4. THE USE OF WINDOWS OF OPPORTUNITY

The fourth step proposed by de Jong and Stoter is to *"recognize and use windows of opportunity when they appear"*. As specific for this case, this would be translated into:

*What windows of opportunity occurred to implement the initiative? Was there a feeling of crisis or emergency around it?*

The windows of opportunity in these cases have been in the past of the projects implemented, more regarding the natural disasters, and that is more likely to be called tragedy. As mentioned earlier, unfortunately it has been the way of acting, as a response from catastro-

phes of the 1954-55, the CEP came up. And as consequence of floods in 1987-88, the KJDRP project came into action (Rahman and Salehin 2013; ADB 1993). And TRM somehow was a reaction against the initial KJDRP project proposed <11>. All these, of course also mobilized huge amounts of money, which is seen as not wanting the area to be problem-free <19 and 11>. However, right now there is no international agency working directly with TRM <6>.

All these cases show that tragedies have been, so far, the window of opportunity for international actors to come, but also for local agencies to react. This is a critical situation if continues, as it is not a proactive development of the problems, but rather reactive and emergency oriented situation. More about this will be analyzed later.

### 5.2.5. CULTURAL AND ADMINISTRATIVE DIFFERENCES AND SIMILARITIES

The fifth point, regarding the *cultural and administrative differences and similarities*, is translated into the following question:

*How were divergences tackled by the donor agent? To which extent were they managed?*

As mentioned previously, the international interventions in the past have created some doubts about the adequacy of Dutch intervention in solving problems in Bangladesh <14>. "JD: Although I see the problem of siltation comes from building the polders, it has helped to make solutions as well, don't you think so? It was the solution back then. INT: No, it was no solution. Because our scientists, geologists, say that this land deformation is a moving process from nature. This land reformation only for 300 years has happened. So this was a wrong decision. JD: What would have been the solution back then then? INT: It would've been committed people doing a move. The people would have to leave, and come back next year. Again and again was doing that. It was 6 months embankment, 6 months without embankment. But in name of the development they took these decisions, which was a wrong decision. If we agreed with Dutch engineers, ok, polders are good. But why are sluice gates narrow?. This is the problem [explanation of sizes of sluice gates and siltation there]. It should have been wider, so silt could come inside. They did small gates in name of canal management. I'm not academic, but this happened, and this is wrong engineering" <14>.

On the other side though, from a donor's perspective, the difficulties that appeared seemed to be more related to the administrative characteristics of the region. "Because this is South-Asia, and bureaucracies are tough stuff here. And to certain degree these organizations have some "autonomy" (not that much), very limited structured controlled by parliament. The system works differently here compared to the Netherlands. So these (in Bangladesh) are traditional engineer organizations and they have remained so. That is a pity... at least the sociology. TRM (Tidal River Management) is a good example. It started 25 years ago, by CEGIS among others, they formulated TRM as an alternative, as the KJRDP [asked for it]... but the BDWB was in favor of constructing big regulators" <1>.

Although there have been evident differences between the cultural and administrative differences and similarities, these haven't been necessarily tackled by the donor agent when there were interventions, and even less regarding TRM. It is a complex issue, however little was done from the administrative differences could be done to change it. In the best case,

the final evaluation report from the Asian Development Bank (ADB 2007a) point the differences, after the project completion and some recommendations are given. These, however, don't seem to be implemented until now.

### 5.2.6. POSITIVE SYMBOLS AROUND THE CHANGE

The final heuristic of ITF is about the *use of neutral or positive symbols only*. This translated into the following question for the TRM case:

*What symbols are present around the initiative that reinforces the positive image or results of it? Are there negative symbols or connotations around?*

Very few positive elements *per se* were found around the positive symbols in TRM. It is a solution that brings many benefits, yet they haven't been highlighted much so far to sell it. It was agreed by many that TRM is the best long term solution until now for this region <4,9,10,19,20>, however it seems that the benefits haven't been much appreciated compared to the losses that TRM is bringing now. *"If there is no river, why TRM? We need the river first of all. We are silting it in name of developments. River is part of ecology and part of life. This concept is very very very essential for the government. It should be for them, for government and BWDB. Is integrated issues a solution. It should be a nature governance what has to be done"* <14>.

The challenge of developing positive symbols around TRM has not been outweighing the difficulties faced by implementing the project in the region. Neither the international involvement nor the local government have developed a positive symbolism around the TRM concept.

## 5.3. PROBLEM DRIVEN ITERATIVE ADAPTATION

The PDIA framework questions are answered and summarized in Table 3.1. These questions aim to define to what extent was TRM developed as a Problem Driven methodology from the lenses of PDIA. This section will explore each one of the four core principles that define the PDIA framework.

### 5.3.1. PARTICULAR PROBLEMS IN PARTICULAR LOCAL CONTEXTS

The first point, and probably the key one for defining a problem driven methodology is about *solving particular problems in particular local contexts, as nominated and prioritized by local actors*. The question that will allow exploring this better is:

*What problem(s) were defined and how were the problems (and if applicable, solutions) defined for this project? Who developed the definition of this problem?*

The problem definition and solution development in the Tidal River Management have had many different perspectives and approaches, which are worth exploring.

There are two sides that tend to explain part of the problem of siltation in the South-

West region in Bangladesh. The first side is the upstream waterflow reduction due to the construction of Farakka Barrage in India, which reduced the flow from Ganges river coming in to Bangladesh and thus, reducing the flow of the distributaries that were flowing through the South West, especially during dry season <11>. This caused an imbalance that increase the net sediment inflow due to the tidal activity.

On the other side, the problem is pointed not to the dam but to the construction of the polders in the region, as proposed by IECO Master Plan <3>. *"The people at the top think that it is lack of upland flow... also about that there is much sediment. Also, because people on the top think that due to lack of this flow the tidal forces push sediment deeper and deeper. And they loose their velocity... In the local level, they also believe sedimentation is a problem, the people on the field, but they think sedimentation is because of the polders built in the 60s. That severe sedimentation comes from that (...). > So the perceptions are different, for local people the fault is the polders, for top government people is the upland flows."* <15>. Other evaluations point the cause as being the CEP as well. *"The shortcomings of the Coastal Embankment Project in Southwest Bangladesh worsened drainage congestion and caused prolonged inundation of farmlands, household lots, and the internal communication networks. The results were declining agricultural production, fewer employment opportunities, and deteriorating salinity conditions, which collectively led to lower living standards, reflected by 75% of the population living below the poverty line at the time of [the KJDRP] project formulation"* (ADB 2007a).

The idea from the top was to develop the Khulna-Jessore Drainage Rehabilitation Project (KJDRP), funded by the Asian Development Bank, which initially was considering the construction of some embankments and gates that would protect the area more ADB 1993. This however - as pointed in chapter 3 - brought up the differences between the BWDB as implementing agency and the local people, who were rejecting the initial idea. After the consultation done with involvement of CEGIS, the TRM proposal came up: *"people actually said, if you put a gate (...), there will be a huge water logging, so please don't do that (in KJDRP area), let the river connectivity"* <11>.

Even before TRM officially was known, beel Bhaina was opened by the local people, without any coordination and intervention from authorities or implementing agencies <12>.

After a discontinued work of TRM, now people is half solving the issue, by either adapting to the local new water-logged situation or by using pumping systems when needed, but it has to be said that when enough upstream flow is assured, the gates solution seems to work <11>.

There is a challenge now between the adaptation of people to TRM and the way that others have managed to adapt. On the one hand many think that TRM is actually the only long term viable solution to manage sedimentation, increased salinity and water logging <19, 14, 20>, however on the other hand, people who have managed to adapt through shrimp cultivation and acuaculture in general are now opposing to TRM, as it would challenge this new market developed <14>.

Finally, also a combination and holistic approach is proposed, *"TRM would be a good improvement for our ecology and ecosystem and livelihood also. Before that we need the holistic approach is the rivers and related rivers. We need re-excavation in main rivers? If we don't manage this river properly, this is not possible to success TRM"* <14>.

From the KJDRP, TRM gained importance in the region as a feasible solution to tackle - in a sustainable way - the sediment that was coming there due to the natural dynamic



condition of that area, by raising the level of a beel in a couple of years <5>, and just needing a part of land for a couple of years to let the sediment go in. A dilemma between the solutions proposed is shown here: *"JD: Dredging is very useful for the short term, but in the long term... INT: Yes, Dredging is the most essential procedure, essential for this area, for this country. JD: Don't you think that in the long term is not sustainable? INT: Yeah, I understand, for sustainability we have need of something after dredging. TRM is a long process to drain, but if we got sufficient water from upstream area, this condition would not be faced"* <5>. Some people actually criticize even more the dredging, as it is not an actual solution but an investment to temporarily solve the effects of a problem that still remains, *"Dredging is not a suitable thing here, is redeposited again by sediments in 2 or 3 months"* <19>.

The development of TRM requires some key characteristics, first, that is building with nature, on the change of beels and drainage. Also, and as a pre-requisite, is to have strong relationships with local people, and motivating them to have a key role. This is essential for the functioning of TRM <7,8,11,12,14,15,17,18,19,20,21>. *"Social motivations and ownership has to be done fast! In the new beel everything has to be done fast. TRM has to be done cyclic... rotating between beels, maybe after 50 years again."* <8>

Some people believe though, that although it is the most suitable solution, it has been a failure <10>.

As part of the solutions people do to manage the water logging, some are doing now Shrimp farming from that waterlogging problem <14>, *"But if you just do fishing all the time, the land will loose it's fertility. And they would have to suffer a lot due to it"* <19>.

Even though the previous things have been attempts to solve the difficulties of water logging and siltation problems there, the problem definition has changed over time. Initially the problem was around the agricultural productivity, around the 60s, then, after the CEP happened (and polders were built), a new problem arose due to this, the excessive siltation and water logging. After this, the problem was around the implementation of TRM as a feasible solution, in competition to the pure dredging and other possible initiatives in this area <10,11>.

The challenge, after starting the implementation of KJDRP, was more about the actual process that was simple "in paper", but challenging in the social perspective <1,7>. *The main problem here is the local conflict of ownership. People are not getting proper compensation, not even now... they get discrimination when it comes to compensation. The powerful men are pushing and not willing to give their land, as they are not being compensated properly. 'If we're compensated properly, we can'. There is an NGO working on that now... Uttaran. They're helping people in getting compensated. They're having conflicts with local engineers from BWDB, because of unsuccessful implementation of TRM"* <12>. Also, the shrimp cultivators have become more and more influential, *"only rich people are getting the benefits of the shrimp farming. In 10 acres of land, 50 or 60 people own it, but 1 person gets the benefit. There are some mafias around it"* <15>. From all the issues that were faced after TRM implementation the most sounded was *"the compensation mechanism... the ongoing mechanism is very complex. Is not possible to receive money properly due to complexity"* <18> *"BWDB, should have done that"* <10>, other people refer to it as *"land development issues, which is a slow and long process, it is natural. We have obstructed that with our interventions (polders and so). That can be minimize if we manage to take the sediment inside. TRM can be one of many options, by which land could be developed."* <20>. In the end, it also came to be *"because of money problems. They don't want to give their land 5 years to be occupied by*

TRM" <9>.

Also, as part of the final recognition of the problem in the region, the KJDRP evaluation stated that these were part of the issues there "(iv) heavy silt deposition on riverbeds and drainage canals; (vi) limited awareness of preconditions for a successful TRM operation; (vii) conflict in resource use between fishpond operators and farmers; (viii) skepticism about the viability of the Bhabodah regulator in light of the appropriateness of rotational TRM; (ix) slow decision-making process in recruiting consultants, NGOs, contractors, and suppliers; and (x) lack of a sustainable Operation and Maintenance (OM) mechanism to alleviate drainage congestion" (ADB 2007a).

Although not clearly stated, the perception from a BWDB official regarding the dredging and water logging solutions seem to be still quite technocratic: "JD: (Just dredging) wouldn't really help the water logging problem... SA: This is our most essential task, to remove the water logging. By improving the drainage facilities, and only re-excavation or dredging of natural channels help removing water logging" <5>.

Finally, there are different perceptions about the problem and solutions that have been considered. All the actors agree that TRM is a very local and non-donor driven solution, "it is a very local knowledge from people of that area. We (as CEGIS) present it in a more technical fashion, and in a more institutional way we present it to other agencies. Still in the policy level, people don't think this is the only suitable solution. As (some of) them still think that dredging is the main solution. The problem is also around the land with vested groups" <7>. In the end, the final discussion is not much about the money itself but about organizing how should it be done, the conflict is about *who* is the one that should receive the money, and how to make it possible for both, the land owners and workers in the beels where TRM is planned <7>. This quote summarizes the key relevance of problem definition and local solving development: "Dakatia solved the problem without engineering help, just with indigenous knowledge. When it came to the authorities, the decisions in a top-down way didn't work, in an active delta where conditions are different [everywhere]. Most of the policy in this region came as an outcome of different projects of international communities or development partners (...) the top came with different solutions. To solve this problem we need both technology and local knowledge. How to survive in this area, that is local knowledge" <16>.

When trying to answer the questions *What problem(s) were defined and how were the problems (and if applicable, solutions) defined for this project? Who developed the definition of this problem?* for TRM case, multiple considerations appear. First, that the adequate solution depends on who the actual problem owner is and what is it trying to solve. If the waterlogging problem is considered as a problem that has to be solved *permanently* in the KJDRP area, the problem owner seems to be the local people, who should be encouraged and helped to implement long lasting solutions such as TRM there. If, on the contrary the waterlogging is a problem but not necessarily a priority, and also keeping financial flow is a priority that arises, then the problem owner seems to be BWDB as it is portrayed by the interviews held. Here, then, seems to be that the prioritization between waterlogging and money flow seems to be evaluated when serious floods occur or when the local people organize in a way that creates pressure for the higher authorities.

Also, as purely local development requires more time and energies to develop *by themselves*, higher policy level commitment seems to be an option to help cleaning and defining

the problems to be solved, not being hindered by intermediate interests of government agencies <17>.

### 5.3.2. "AUTHORIZING ENVIRONMENT" FOR DECISION-MAKING THAT ENCOURAGES EXPERIMENTATION

The second point proposed by the PDIA framework states that is important the *creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"*. This was translated into the question:

*Was there an authorizing environment to develop the initiative? From whom and how was this support received to implement and make the changes to the proposed plan/project?*

One of the things that made TRM seem so local was the opening of the first beel to do TRM from a completely local perspective, without any higher authorization and actually was more done as a response to the severe water logging faced back then. *"Who was responsibly of this 'experiment'? INT: No one, it was their [local] initiative, but for 2 or 3 years happened that public institutions were there to stop the cut point, it was BWDB, but the pressure to do it came from the local people" <11>.*

However, once TRM was recognized as a suitable solution for the KJDRP project, the task was re-focused: *"Technical assistance (TA) provided for the Project was to help social preparation and beneficiary participation in Bangladesh Water Development Board (BWDB) projects by assisting BWDB in developing and implementing appropriate procedures. The TA scope included (i) developing a WMA plan; (ii) preparing and implementing an information campaign; (iii) formulating indicators for monitoring and evaluating benefits, together with periodic impact assessment studies; (iv) formulating a land acquisition, compensation, and resettlement plan; (v) creating a legal framework for the registration of WMAs; and (vi) recommending modifications of existing legislation or proposing new legislation to allow the registration of WMAs as legal entities" (ADB 2007a)*. This could be taken as part of the authorizing environment that enabled the leadership of BWDB to develop TRM in the south western region.

After KJDRP project completion, TRM came to an empty space where no one was specially leading it or being a 'serious responsible' of the project apart from BWDB <11>. Currently beel Pakimara is running TRM with some deficits in technical implementation and also with land compensation issues which are tried to be covered and helped by a local NGO called Uttaran. In the future, the authorizing environment that defines the priorities of the problems depends a lot on political will, as expressed by a member from Uttaran: *"it is a matter of time to see changes? JS: Yes, either with a drastic political person in one night, or with some time to adjust to these changes. And also what the political government wants. Rice is equity, shrimp is profitable, less people benefited but more money... it depends on what the political will is. That problem can be solved by strong political willingness. This is where advocacy comes in. There is no point in arguing with BWDB. It's with the political government, they create the political conditions" <15>.* Also, a local leader points that *"local administration is involved in this, but it is not enough. Central government should be involved in the [TRM] project and create laws especially for it. We have the law established in 1971, but the power is low. Government should establish a new law. That's old. Government should create new rules for TRM by itself" <17>.*

As pointed in the previous section, many people criticize BWDB for the way of working and implementing TRM, not taking into account the people to actually develop it and being stuck in an old-fashioned way of conceiving problems and solutions <4,14,15,18,19> and (ADB 2007a) and of being corrupt from up above: *"The authorities don't want this region to be problem-free, because otherwise their income would be less"* <19>.

However, is also important to point that a researcher went back and stated that the 'full responsibility' of BWDB could have been avoided somehow: *"This problem could have been solved if local people had taken initiative to solve it, instead of depending on the government. I remember local people said: 'If we take contribution from farmers who want it, that would be enough to compensate this people [giving their land for TRM]'"* <4>.

When asked a high rank BWDB former official about the critiques that this organization receives around the inability to deal with the problem and that they should lead the situation, he said that *"BWDB cannot do it. JD: But as head of the process... INT: BWDB is one part, is the mainly implementing agency, so is a total effort of the government missionaries. BWDB people and elites there, for instance. All should come forward, if I blame you and you blame me, then it will not be solved. There is only a blame game"* <22>.

Regarding the positive deviance and experimentation, however, still not much was added to what the local people already developed by opening the first beel <16>. The fact that they were not involved with local people and never "cultivated local knowledge portrayed a set of "difficulties around learning to evolve from the idea of TRM towards a reality that can be self sustained in the south western region in Bangladesh, especially as "one local party people cannot solve this". In words of actors related to the whole TRM implementation: *"JD: How was people management there? INT: [People management] was the original plan, but it was kind of 'you have to agree', like a "forced cooperation"* <4>.

In order to make this learning process around TRM work, more seriousness should be taken to it. *"Political conflict affects the implementation of TRM. It is taken as a political game of favors and influences, remove political conflicts among us. People know they need TRM but they use it as a political strategy"* <17>. Also, from another local leader: "if compensation, engineering and local people's participation is not solved, TRM won't work" <18>. ADB also recognized after KJDRP finalized that "[part of the issues were] lack of appreciation for indigenous knowledge systems and BWDB's resistance to adopting nonstructural solutions in favor of structural solutions were the main factors contributing to the rift between the local people and BWDB. The Project made progress only after the local people demonstrated an indigenous-knowledge-based "tidal river management" (TRM) approach, which was later found as technically feasible, economically viable, and socially acceptable. The water management groups at the village level were formed at a much later stage and had little contribution to project design and implementation" ADB 2007a.

In order to improve the authorizing environment, some challenges have to be overcome. A first one was regarding the perception of non-favor of TRM strategy *"because it takes some much time to implement (5 to 6 years), and if we go for engineering solutions [is faster] and there is some money generation... that think the higher authorities. (...) Local people is in favor of TRM."* <12>. This perception resonates through other institutions who are involved in handing money: "if you ask the local people, they have a clear idea of what should be done... they say, please don't give it through district commissioner office. The district people are really crafted, if they receive 100 taka, they give 25. People are really

suffering from it". <11>

A second challenge that needs additional authority regarding TRM implementation comes from the compensation process, which is - to some extent - out of BWDB hands and requires an expanded "authorizing environment". *"The people need an easy compensation process, but the government's one is very complex. Currently the government provides compensation only to land ownership, but what about those who are not those (open shared, etc.)? No"* <19>. Part of the complexity of the system can be seen in this part of the interview with a local NGO:

*"INT: Whose fault is that compensation is not arriving on time? JD: BWDB? INT: No, is LA (Land Administration office - coordinated by the District Commissioner), they are the ones who give the money later and make it complex. But from BWDB all money has been delivered to LA in 2015... and in July 2016 a second amount was given... for LA is the same thing to them as any other land problem in Bangladesh. JD: So BWDB can change it? INT: Yes. JD: Why don't they do it? INT: Because the only one who can claim land from people is LA... JD: So BWDB can and can't at the same time? INT: Yes, they can and can't. Policies in Bangladesh are conflicting. LA is the most powerful department of Bangladesh. They can claim anything that is not clear. (...) INT: That's why BWDB cannot move, but also they are full of civil engineers, not even hydrologists. They only think in terms of dams dams dams, embankments, embankments, embankments. The more construction materials, the more money you can handle"* <15>.

A local leader points also that *"The problem is the law. There was a law in 1992, acquisition law. This law is the problem. It is implemented by the DC (District commissioner). There are many systems. If you want to receive money you have to submit 13 or 14 documents. Is impossible (...), for the poor people is difficult to receive money"* <18>.

On the other hand, from the perspective of former BWDB high level positions, it is said that it is a *"total process. BWDB is a single player, we need to align, is a combined effort"* <22>. The main players so far, from administration and implementation level are the BWDB, the DC. These two agencies deal with most of the "practical" responsibility around TRM implementation now.

To solve this authorizing issues, many local proposals came up, *"is not only in the Dhaka (national) level. Everybody has to do here, from national to very local. As the government is not paying properly, also local people is against TRM. Also there are some businesses already running there who see TRM as a threat. It is very complex, if you convince me, for instance, another one won't... you have to convince everyone and in all levels to continue this process"* <19>. *"Social motivations and ownership has to be done fast"* <8>. A higher level, again, should be involved. *"JD: Who should do this? INT: Other instances of the water ministry. WARPO can be involved, but BWDB should only implement the very engineering ones. JD: So the head should be in a holistic institution? INT: Yes. To seize the power of BWDB. To reduce it"* <18>. This final recommendation aligns with the final proposals from ADB after finishing the KJDRP project and facing TRM implementation difficulties:

*"First, that the Ministry of Water Resources (MOWR) [should] form an advisory group on water resource management, comprising BWDB, NGOs, civil society organizations, research institutions, knowledge experts, and people's organizations to ensure active partner-*

*ship with relevant stakeholders in the areas of drainage congestion, silt management, and salinity intrusion. Second, that MOWR prepares a comprehensive approach to solve the flooding, waterlogging, and silt management problems in the drainage congested southwestern Bangladesh (approximately 400,000 ha), originally covered by the coastal embankment systems and/or areas facing similar drainage congestion problems. The study among other things should focus on (i) documenting indigenous knowledge on silt and water management in major river systems throughout Bangladesh; (ii) identifying best practices in silt management, and other water management problems including salinity intrusion, flooding, and irrigation applicable to Bangladesh; (iii) assessing operational compatibility between the fixed structures (e.g., regulators) and nonstructural options like TRM options, including the viability of continuing with the Bhabodah regulator to ease drainage congestion; (iv) identifying preconditions for successful operation of rotational TRM systems for each viable beel; (v) assessing impacts of drainage systems on fisheries' natural habitat and environment; and (vi) preparing a holistic approach to silt management. Third, that MOWR undertake a comprehensive institutional analysis of BWDB, local government institutions, and community based organizations for (i) developing a self-sustaining mechanism for OM of drainage systems, including a TRM system involving local government institutions and beneficiaries, and (ii) managing water resources effectively in full partnership with local communities and relevant stakeholders" ADB 2007a.*

In summary, that the Ministry of Water Resources gets hands on with the comprehensive water management and development of this region, through an actual intervention of BWDB. It is not known to what extent this recommendations were actually followed.

To conclude this subsection and answer the questions of *was there an authorizing environment to develop the initiative? From whom and how was this support received to implement and make the changes to the proposed plan/project?*, it can be seen a couple of things. First that there is/was not only a lack of enough authorizing environment to adequately develop TRM in the region, but also (and mainly), to connect and develop the local capacities of the people to develop the TRM concept into something more sustainable. Although authorization came from higher authorities (and ADB somehow at the beginning) to encourage BWDB to take over TRM implementation, in practice it was insufficient due to lack of the capacities required to develop a socially-driven initiative such as TRM.

This challenge though, doesn't seem to be only full responsibility of BWDB, but actually of a comprehensive supra-regional strategy to develop TRM as a different solution compared to structural ones. This requires that the institutional culture starts seeing TRM as an approach that requires different intra-governmental dynamics that have to be lead by a stronger (and more influential) agency than BWDB, especially due to the complexity of the problems faced with legislation and communities that require a bigger view of the approach that the south western region requires.

### **5.3.3. ACTIVE AND EXPERIENTIAL LEARNING BY ITERATIVE FEEDBACK OF LESSONS**

The fourth point recommended by the PDIA framework proposes *active, ongoing, and experiential learning and the iterative feedback of lessons into new solutions*, which is translated into:

*Were there learning processes involved, how were they? Were they feedback lessons to enhance capacity?*

Multiple attempts to develop TRM were done, starting from the very basic local 'urgently' developed idea in beel Bhaina (1997 - 2001), and gradually growing to include BWDB in other beels such as Kedaria (2002-2005), Khuksia (2006-2012) and Pakhimara recently (2015-ongoing) in order to grow and improve implementation (Gain et al. 2017; de Die 2013). This cyclic implementation of TRM implied also problems which were part of the learning process and also grew in complexity. For instance, before closing a beel, is critical that another one is prepared in the right timing to continue the process of "natural dredging" of the rivers and land-dredging of the beels. An example of this was on beel Kuhkshia, which was not properly prepared beforehand and thus the operation was inefficient, Kapalia had a lot of conflicts and they had to stop the process there <9>. In all these cases, land ownership problems started gradually growing, which was not an issue in the beginning.

A reason that explains the evolution of the conflict around land compensation was that *"the first beel was public expectation, the second one wanted compensation, but not seriously... the thing was a necessity at the beginning. After that, they wanted compensation. The people after 2 or 3 years want compensation"* <11>. *"This was around 2000 or 2001 maybe (Khedaria)... in the meantime, people are thinking: why should I suffer 2 or 3 years while everybody is taking advantage of me giving my land? So they said: give us compensation.... But Water Board couldn't manage that compensation. So they stopped compensation.... After 2 years, rivers were further silted... then suffering started again. So they prepared for Khukshia beel (2002 – 2003)"* <11>. By then CEGIS was asked to develop a compensation mechanism that could help organizing the land management system for TRM to work. The main difficulty came from matching the ownership "in paper" with the real people affected in the field, which implied that not everyone was going to receive compensation.

*"After that, BDWB had to prepare another beel for TRM, which is called beel Khopalia, it was 100% failed. There was another issue, as people had to agree to give their land to next TRM. The businesses there are very strong, muscle man are very strong. They disagreed to do TRM in Khopalia, and even some incidents, as some people burned 2 or 3 cars in that area"* <11>. Here the problem grew from land ownership to actually business conflicts between TRM and local fishermen. The only beel complete, at this point is beel Baina, the first one developed <12>.

Even now, in beel Pakiamra, the technical details that have to be taken into account to correctly implement TRM, which includes proper sediment management within the beel and adequate cuts for water flow, have some problems. Local people even say that the right position shouldn't be where the cut is now, and even the beel started operation without a proper Environmental Management Plan (EMP), a must in this kind of projects <20, 18>. *"Sediment distribution has to be uniform, and it is not now, they are going one sided, is under TRM but is not following the proper TRM system. Phakimara is not properly planned"* <12>. These problems were lessons learned which should have been taken into the iteration/learning process, however the problems grew too fast... or the solutions came too slow. Anyway this has been part of the cause for failure of a full TRM implementation.

There were additionally some problems which also came into scene as TRM was growing, but are much more difficult to address: *"[At the beginning], people said that for the*

*benefit of the entire area, they were willing to sacrifice 3-4 years. But then, many of us discussed that even some could compensate. Then they said that compensation was nothing compared to the benefits [gotten from TRM]... that [some amount of money] was more than enough. Local government committed that if it was needed, they would arrange that, but after the problem was solved, the local people didn't keep their end of the bargain. They behaved differently I shall say. They were not serious about this issues" <4>. Also, this evolved to a point where "when we (as CEGIS) went to the third beel, Khopalia, people blasted... because miscommunication, mismanagement. If you do TRM you have to prepare this beel with necessary compensation and other things integrated" <11>.*

It seems that the learning process has been more related to people getting agitated than actually a learning process with and from the community <10>. Uttaran and other local NGOs are specifically working to create more awareness in the government. Yet there are some points that local leaders have explicitly highlighted (among others) for improving TRM process:

*"Do not lease. When the government takes the lease from the poor people, the people has to show docs to prove ownership of this land. But there are problems with it. You should give the land compensation without so many complexities. For example, if there is a brother living in a land of another brother, then that should be possible, but not a detailed and complex process to specifically point and allow ownership. For example family relatedness would help. Also, alternative livelihood should be provided for those who are moving to cultivate crops and create their own livelihood" <17>.*

To conclude, an important work done around the learning processes in TRM has been done by (Mutahara 2018), where some important clear challenges were posed: First, that TRM can be a sound solution in many aspects, however it also brings uncertainties and tensions on the local water governance. Second, the inter-learning process has been difficult between actors, meaning this that the 'learning together' (in different stakeholders level) remains a challenge to overcome, which is attributed to discontinuity of stakeholders and organizations involved over time. Third, the conflict due to TRM implementation has been growing over time, to reduce this, the strategy and factors considered have to change, such as to include the regional political and policy domains in the development of the initiative. The last point presented by Mutahara speaks by itself:

*"This research shows that the current challenges in delta management in the study area are more connected to the institutional, social and political aspects of water management than to the physical domains. The major restrictions come from the gaps in actions and interactions between communities, authorities and other development agencies, or from the limitations in learning orientations between individuals' and organizations' relevant to water management", where solutions can come from "facilitating a functional multi-stakeholder learning platform that operates at micro, meso, and macro levels appears essential for balancing conflict and cooperation in fragile and dynamic deltas where communication and trust are currently far from optimal".*

The iteration process happened somehow while growing TRM in the south west region, by implementing it in different beels over years. This process, however, was not accompanied by the feedback loop of adequate learning from the previous lesson, fix and grow that PDIA proposes and that, in general, any scaling up process should have. Among the



difficulties found were the inability to cope up with the social complexities that showed up as TRM was developing. The development of TRM in a beel depended on the expectations and the experiences of the previous one, however the conflicts got dimensions that an institution like BWDB could not handle by itself. The iteration process happened then here, and although there were lessons learned by this in Bangladesh, it didn't translate into capacity enhancement to gradually expand and stabilize the TRM concept. For specific recommendations on learning challenges in TRM, Mutahara 2018 work is a good point to look for more specific challenges to grow and build from.

#### 5.3.4. AGENTS ENGAGEMENT TO ENSURE POLITICALLY SUPPORTABLE AND IMPLEMENTABLE REFORMS

The last point that PDIA proposes to promote capacity development in problem-driven cases is the "engagement of broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable". To know better whether this was applied by TRM, the question formulated was:

*Which actors/agents were involved to legitimate the actions proposed that could enhance trust of the initiative?*

The development of KJDRP project was a notice which made echo in the local region through Uttaran (local NGO) and then through the involvement of CEGIS to do the Environmental and Social Impact Assessment, as requested by the ADB <3,15>. Also, after the severity of the problem, and the persistence of BWDB to provide a structural solution, the higher authorities ordered the implementation of TRM as the solution for the region instead of the original plan <4,11>. *"In fact people lost their confidence in the organization and that compensation wouldn't happen. One of the problems is that money goes to the Deputy Commission of the District (DC). They ask for your documents for the land. . . there are many farmers that don't have the right ones. If you don't have documents you can't do anything"* <10>. Also, the intervention of Uttaran later in Pakimara beel has helped to make processes for local people: *"We are helping the government to give compensation (...), is the District Administration who gives money. So LA (Land Authority) gives compensation received by BWDB, but LA checks that the docs are right. And LA works here depending on the district commission, for a single district. DC signs, but LA gives the money"* <15, 18>. The system is complex on the amount of institutional actors involved, however the discouraging issue is that *"Uttaran is working there now on their own, by their own initiative, it is not engaged by BWDB"* <18>. Due to this complexity is that ADB and other local actors have suggested a stronger involvement from the Ministry of Water Resources to cope with the challenge that implementing TRM brings (ADB 2007a).

The main challenges faced that have to be addressed in TRM, which have been somehow mentioned earlier, and require a broad set of agents could be summarized in the following: low cooperation of local stakeholders and other related government agencies < 4 and ADB 2007a>, complex compensation mechanisms for local people <4,20,22, 12 and 19>, political commitment to make TRM a solution is not there <12,14, 15>, negative propaganda against TRM <7> and the emerging economies that are adapting (and benefiting now) from water logging conditions <20>.

Also, and as a complementary part for TRM operation is the *post-operation of it*. *"There*

*is no post-activities of TRM, as there is no money there people just forget it. When there is money for the project, people appear, after that they don't" <17>. All in all, as expressed by a CEGIS member, it seems that people are not fully confident about the TRM, that's my impression. I can see that there is still gap <7>, which comes from many sources.*

This point is probably where TRM has faced the biggest difficulty, as it hasn't been able to develop adequate solutions proportional to the challenge faced. In order to do this, many have faced the inability of BWDB to deal with the complexities, however (although) that is a reality, the complex social involvement that TRM needs, requires a compensation from part of the institutional level in Bangladesh that can support this. For now, this doesn't seem to be present or developing there.

#### 5.4. ANALYSIS FROM TRM'S PERSPECTIVE

Similar to what was done in the previous chapter, to process the information from the interviews in a form in which PDIA and IT frameworks can be evaluated, each interviewee is rated to see if it supports or contradicts the statement for each parameter. A ✓ shows if that interviewee supports that statement, if on the contrary, is not and actually shows arguments that contradict the main idea of the parameter, a cross (X) is marked. Sometimes there are arguments from both sides, and thus a ✓ and a X are marked in the same cell. A gray box means that that interviewee didn't relate to that parameter. Figure 5.7 shows these results summarized.

Also, in a similar fashion to what was done in the BDP2100 case in chapter 4, with the information provided in this chapter about TRM an analysis from "donor" and "beneficiary" perspectives will be done, highlighting the main benefits and challenges of them.

The "donor" in this section is considered a bit more ambiguous than in the BDP case, as it would mean the "potential" international agent that could be interested in the development of TRM by any financial or long term relationship reasons. The "beneficiary" is considered the local population who is being affected by the water-logging problem, as well as the Government of Bangladesh.

The following are the benefits selected, highlighting who is benefiting from it, if either the donor, the beneficiary or both:

- Environmentally friendly case - **Donor and Beneficiary**
- Development of local capacities to solve waterlogging problem - **Only Beneficiary**
- Long term solution to waterlogging in South West of Bangladesh - **Only Beneficiary**
- New social and build-with-nature knowledge- **Donor and Beneficiary**

The *Environmentally friendly case* is considered to benefit Donor also as it is considered of public interest the environmental development, however is not a straightforward statement and is an assumption made here. The main challenges or difficulties in TRM are:

- People doesn't want to give their land due to compensation complexities - **Only Beneficiary**

Institutional Transplantation		1	3	4	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	22	ADB REPORT	
<b>Parameter code:</b>	<b>Heuristics for Institutional Transplantation at the International Level:</b>																					
1	Strengthen the position of international proponents of change	What international cooperation "solved" many years ago around the agricultural productivity by the CEP, is the cause of the problem of today. Local people see that the CEP, which was useful in the past is causing problems now with water logging. This plus the initial KJDRP intention to build more sluices made a defending reaction on the locals, who still see the foreign image weak regarding this type of -very- local interventions. Also, to a great extent the level of involvement was quite defined as giving money out. However right now there is no official international involvement in TRM apart from research.																				
2	Avoid "retooling" (copcat transplantation) - use multiple models and go from the general to the specific	The copcat transplantation hasn't happened, <i>per se</i> in the TRM case, but in the past experiences. And that has been a lesson learned, that even though local developed solutions might work in the Netherlands - for instance - a completely different geographical and social dynamics has to be built in the region to implement.																				
3	Hire and use proactive institutional entrepreneurs	The role of BVDB as the implementing agency of TRM has been heavily criticized from multiple sides and is one of the weakest points of TRM implementation. The role of BVDB as a local actor to promote the TRM idea has been prejudicial to actually not only implement TRM, but actually to connect with local people and strengthen the local capacities that is required by socially-driven initiatives such as TRM.																				
4	Recognise and use windows of opportunity when they appear	Tragedies have been so far the window of opportunity for international actors to come, but also for local agencies to react. This is a critical situation if continues, as it is not a proactive development of the problems, but rather reactive and emergency oriented situation. More about this will be analyzed later.																				
5	Account for cultural and administrative differences and similarities	Although there have been evident differences between the cultural and administrative differences and similarities, there haven't been necessarily tackled by the donor agent when there were interventions, and even less regarding TRM. This is probably due to the kind of international involvement that occurred here. There were, in the end of KJDRP project an important set of recommendations to help TRM implementation.																				
6	Use only neutral or positive symbols	The challenge of developing positive symbols around TRM has not been outweighing the difficulties faced by implementing the project in the south western region. Neither the international involvement nor the local government have developed a positive symbolism around the TRM concept.																				
<b>PDIA</b>																						
<b>Core principles of PDIA:</b>																						
7	Aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors	If the waterlogging problem is considered as a problem that has to be solved permanently in the KJDRP area, the problem owner seems to be the local people, who should be encouraged and helped to implement long lasting solutions such as TRM there. If, on the contrary the waterlogging is a problem but not necessarily a priority, and also keeping financial flow is a priority that arises, then the problem owner seems to be BVDB. Now this distinction is not clear from the big picture, however the TRM concept itself developed as a solution to a specific local problem, as this, will be considered a positive problem definition by local actors.																				
8	Creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"	First that there is/has not only a lack of enough authorizing environment to adequately develop TRM in the region, but also (and mainly), to connect and develop the local capacities of the people to develop the TRM concept into something more sustainable. Although authorization came from higher authorities (and ADB somehow at the beginning) to encourage BVDB to take over TRM implementation, in practice it was insufficient due to lack of the capacities required to develop a socially-driven initiative such as TRM.																				
9	Active, ongoing, and experiential (and experimental) learning and the iterative feedback of lessons into new solutions	The iteration process happened somehow while growing TRM in the south west region, by implementing it in different beels over years. This process, however, was not accompanied by the feedback loop of learning from the previous lesson, fix and grow that PDIA proposes and that, in general, any scaling up process should have. Although there were lessons learned by this in Bangladesh, it didn't translate into capacity enhancement to gradually expand and stabilize the TRM concept.																				
10	Engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable	TRM hasn't been able to develop adequate solutions proportional to the new challenges faced. The complex social involvement that TRM needs, requires a compensation from part of the institutional level in Bangladesh that can support this, which has become the main limitation for the progress of TRM in the region.																				

Figure 5.7: Interviewees analysis on BDP2100 per parameter.

- Distrust in the main implementing agency - **Donor and Beneficiary**
- There is no visible political will to change things from the higher level in the government - **Donor and Beneficiary**
- Technical inadequacies while implementing TRM - **Only Beneficiary**

The *no visible political will to change things from the higher level in the government* is considered as a difficulty also for the donor as this would harm the future projects that can be developed together, and thus, the long-term relationships that could be held. This can be seen from previous experiences of the World Bank and Asian Development Bank in Bangladesh (World Bank 1991; ADB 2007a), especially concerning the role of BWDB.

Also in this chapter, to define which are the most influential parameters from either the PDIA or the Institutional Transplantation Framework (ITF) that contribute to the improvement or downgrading of TRM, the benefits and challenges/problems of the project will be compared with the evaluation of each component of the framework in the TRM case. This evaluation is classified as *green, yellow or red* whether the analysis of each step correspond to an *adequate, partly or insufficient* execution of the parameter from the framework, respectively. This is summarized in Figure 5.8 and explained below.

## 5. COASTAL MANAGEMENT INITIATIVES: THE DEVELOPMENT OF TIDAL RIVER MANAGEMENT - ANALYSIS FROM PROBLEM VS. SOLUTION DRIVEN APPROACHES

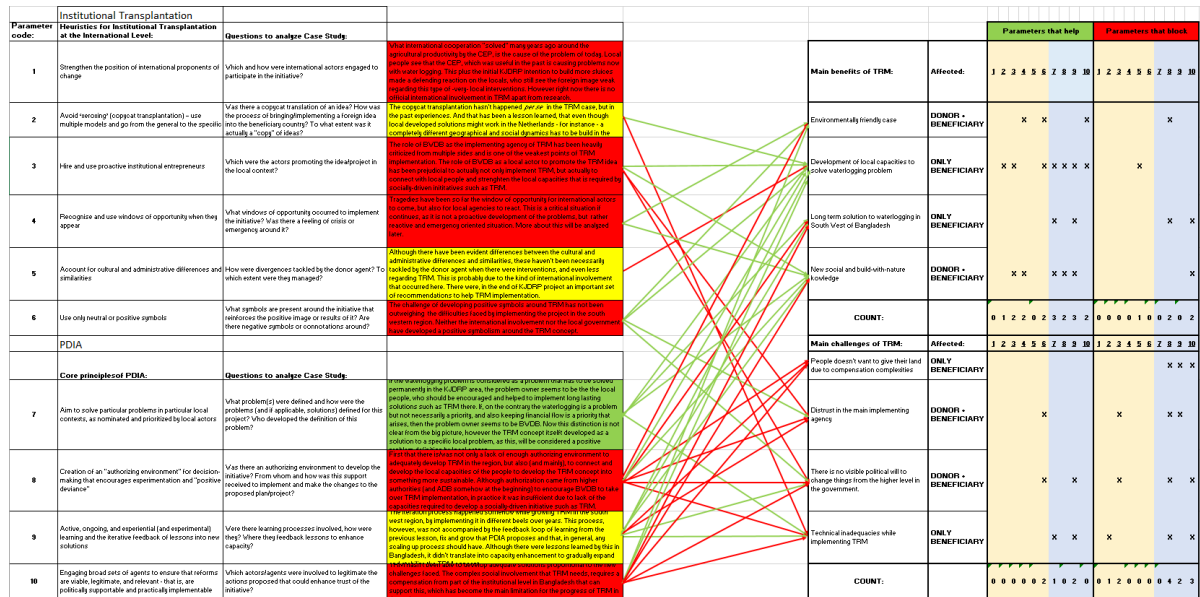


Figure 5.8: Matching TRM evaluation from ITF and PDIA with the challenges and benefits perceived by local actors

For each benefit and challenge in TRM, all the components of both frameworks are compared. Then a question is set like this: "Is this X benefit/challenge caused by Y parameter of the framework in the TRM case?" If the answer is a clear *yes*, then a green line connects to point that parameter of the framework with the benefit/challenge if it is a positive cause, and red if it is a negative cause.

After evaluating each one of the causes, they are counted to define which parameters are the ones that have most impact in the overall benefits and challenges, as well as to see what parameters would benefit donor or beneficiary initiatives more profoundly.

### 5.4.1. CONCLUSIONS FROM THE PDIA AND IT FRAMEWORKS TOWARDS TIDAL RIVER MANAGEMENT

After doing the development of the analysis and shown in Figure 5.8, the following conclusions can be taken from it:

- Overall, the parameters from the PDIA framework are the ones affecting the most the TRM case, this would imply that, from the Coastal Management initiatives mentioned here, TRM is a case that has features of "problem driven", although there are still many points that are not enough to consider it fully in the *Problem Driven Iterative Adaptation* framework.
- The most critical parameter that threatens the benefits of TRM are the absence of "*an authorizing environment for decision-making that encourages experimentation and positive deviance*", as well as not having "*engaged broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable*".

3. The parameters that help the benefits from TRM are also coming mainly from the PDIA framework, mainly the *"aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors"* and also the lack *"active, ongoing, and experiential learning and the iterative feedback of lessons into new solutions"*. The latter, although incomplete and not done as a full iteration process, has moved TRM from being a 'breach' done by local people in an emergency, to a feasible solution that faces new social challenges that come with the scaling up of TRM.

Also the other 2 points of PDIA are slightly less relevant, in the perspective of the analysis proposed here.

4. The ITF parameters although can be helpful to some extent in the benefits of TRM, they aren't as relevant as PDIA ones.
5. The lack of *"an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"*", and the lack of *"engagement of broad sets of agents to ensure that reforms are politically supportable and practically implementable"* are the most critical parameters that influence the difficulties of TRM faced now. This ones, although are also part of the causes of the benefits of TRM, show that if there is not a serious approach to take TRM as a comprehensive solution (from top and from different related actors), it won't overcome the complexities it has so far.
6. The benefit of developing local capacities to solve waterlogging problem is the most benefited from PDIA and IT frameworks.

A more comprehensive conclusion and analyses will be done in chapters 6 and 8, there it will be compared with the results from the BDP2100 case.

Next chapter will try to match both sides, the problem driven approach through PDIA and the solution driven one through ITF.



# 6

## JOINT APPROACH: PROBLEM AND SOLUTION DRIVEN?

This chapter will combine the insights from the analyses of the BDP and TRM cases. After having a detailed view on each case study and evaluate them through PDIA and ITF in the previous chapters, a proposed joint approach will be developed here. First, a comparison of the frameworks is done such that the gaps can be defined between PDIA and ITF, understanding where are the main contradictory points between them, and where are possible non-defined issues to take into account. After this, the information from the previous chapters is taken into account to define where can the frameworks be combined, and in which cases there must be modifications or can be an overlap of the methodology. Finally, a joint approach is proposed, called Cooperative Development Framework with the explanation of the factors and changes included. A summary of the approach is given in the end, taking into account the gaps and strengths from both frameworks and from the new framework itself.

### 6.1. CONTRADICTIONS BETWEEN FRAMEWORKS

To understand better the possible challenges that can appear when comparing and joining PDIA with ITF, an analysis between their main conflicting parameters has to be done. In order to have an overview on this, each parameter of PDIA and ITF are compared, and here, only the possible conflicts are presented. This comparison is theoretical and is not connected yet with the case studies presented. Figure 6.1 is the basic table to code and make this comparison, Figure 6.2 shows a summary of the opposing parameters between PDIA and ITF. After a brief description of the contradictions between frameworks, a set of possible gap fillers is presented later.

From the scan proposed, parameters **1 and 7** show the first potential contradicting aspect. The fact that in ITF strengthening the position of international actors is considered a requirement to make the transplantation process work, can cause difficulties with the focus of PDIA on focusing on locally developed problems. Usually, the strong position offered by international -donor- actors is due to their 'knowledge and expertise' in certain fields, which is sold abroad as a pre-defined solution. In contrast, the problem definition process takes time, and is actually necessary to be developed by local people. These two parame-

Parameter code:	Institutional Transplantation:
1	Strengthen the position of international proponents of change
2	Avoid 'xeroxing' (copycat transplantation) – use multiple models and go from the general to the specific
3	Hire and use proactive institutional entrepreneurs
4	Recognise and use windows of opportunity when they appear
5	Account for cultural and administrative differences and similarities
6	Use only neutral or positive symbols
	<b>PDIA</b>
	<b>Core principles of PDIA:</b>
7	Aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors
8	Creation of an "authorizing environment" for decision-making that encourages experimentation and "positive deviance"
9	Active, ongoing, and experiential (and experimental) learning and the iterative feedback of lessons into new solutions
10	Engaging broad sets of agents to ensure that reforms are viable, legitimate, and relevant - that is, are politically supportable and practically implementable

Figure 6.1: Parameters code

ters can be contrasting and opposing to each other. A similar challenge appears between parameters **1 and 9**, where the same donor's 'strength' can be an obstacle to actually develop the local capacities and rushing the learning process with the competition of foreign expertise.

Another group of challenges between the ITF and PDIA frameworks can be seen in parameters **2 and 7**, as well as **2 and 9**. In this case, the challenge is not that crystal clear, but actually is more related to the potential weak points that these parameters have. For instance, parameter **2** says that copycat transplantation should be avoided, however avoiding copycat transplantation from a donor's perspective can mean many things, such as doing generic "stakeholders socialization" (or information) or to actually getting into very local details and participation. This ambiguity of "avoiding copycat transplantation" can lead to misconceptions of thinking that copying is avoided when it is not really happening. This, again, could affect directly 2 points from PDIA, regarding the problem definition (parameter 7), as a problem could be considered defined as 'local' when is not in reality, but also the iterative and learning process (parameter 9), as an inadequate 'copycat' could divert and bias the learning process required in the local space.

A third set of challenges is present between parameters **4 and 7** and **4 and 9**. This time, the recognition of windows of opportunity could be a challenge when compared with PDIA. Looking for a window of opportunity is a strategic move, while the problem identification (parameter 7) and learning process (parameter 9) are a rather patient and constant process. The insistence of finding a window of opportunity comes with the pre-condition of having something to push through that window, which is a solution in this case, from the



donor's perspective. This, again, would contradict the basic point of PDIA of local problem definition and iterative learning.

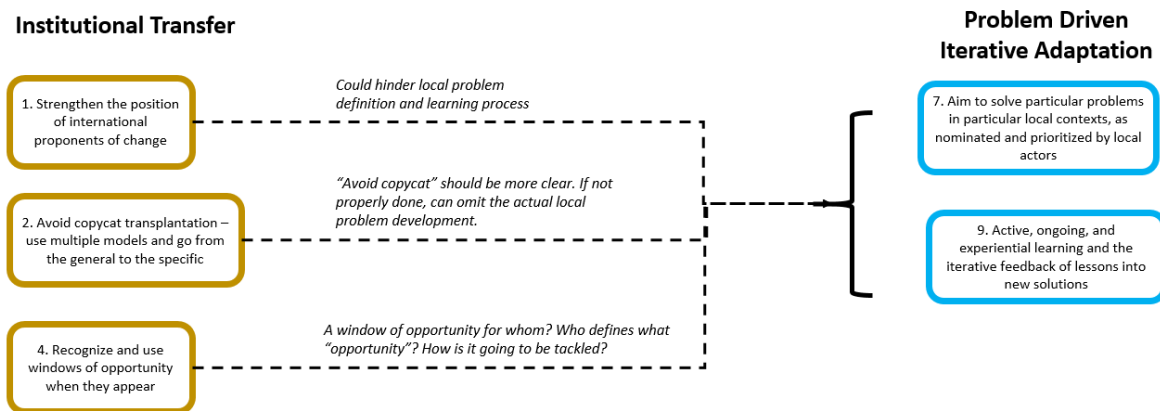


Figure 6.2: Main contrasts between IT and PDIA frameworks

From the parameter analysis can be seen that, in general, parameters 7 and 9 seem to be recurrently conflicting against ITF and somehow are the most "vulnerable" when considering these difficulties.

### 6.1.1. OVERCOMING THE CONTRADICTIONS

From Figure 6.2 some key elements will be drawn to see how the gaps can be filled. These difficulties presented here are not necessarily verifiable by the case studies presented here, yet from the analysis of the PDIA and IT frameworks, it will be proposed as part of the joint approach.

The first conflict between parameters **1 versus 7 & 9**, which is mainly related to the international strong position vs. local prioritization, should be merged / solved in a way that keeps the local problem definition as a key priority, and the learning process is promoted. For this, the strategy of strengthening the position of international proponents of change should either change or reconsider the immediate benefit expected from time / money. The supply side approach presented here, as mentioned in the beginning, is more related to "Institutional Transfer" and cooperation, and not considering a straightforward business approach. With this in mind, a new supply approach should be used, which actually promotes the learning process and local capacity development as a new strategy to develop international cooperation networks, as has been proposed by Theisoehn 2013; Fukuda-Parr and Lopes 2013 and more specifically in Ellerman 2002.

Second, the differences between parameters **2 versus 7 & 9** are related to the possible threats that may come to the process of transplantation itself. The gap, as mentioned earlier, is related to the "fake illusion" of avoiding copycat transplantation when actually it is not necessarily happening. This is probably one of the most critical gaps to fill, as knowing exactly when something transferred or brought from abroad may be prejudicial or not is still a challenge, an example of this is the polderization process in Bangladesh, being a foreign and suitable solution back then, but now is somehow also part of the siltation and water logging problem in the south west. A way that could help filling this gap is not clear, and is more a set of recommendations that would avoid - to certain extent - the copying

process when is not necessary or unsuitable. However, the best way to avoid the copycat transplantation is actually to give the responsibility to the local people, in this case, almost giving the focus of the problem definition to the locals and work from that. This way, although may be less 'convenient' from the donor perspective, actually would be a way to ensure that the transplantation process is 'locally led'.

Thirdly, and probably the most challenging one is determining when a window of opportunity comes or not, and moreover, for whom is that window of opportunity important. This can be seen in the contrasts between parameters **4 versus 7 & 9**. This point is critical probably more from the donor's perspective than from the beneficiary, as it would imply *when* to participate and probably also *why* to get involved in foreign projects, if there is no clear money contribution by 'leaving' the beneficiary country to define their own projects at their own pace and in their own way, without the 'help' from outside. This tricky contradiction has to be overcome in a way that it actually solves *actual* problems and there is *real* learning, meaning this that the local conditions are developed and gradually improved.

How to do so? The first option could be to filter what a window of opportunity is. From the donor's perspective, such a window is the chance to come up with a solution or 'help' to promote the elucidation they propose. With this filter, however, the proposed solution will be evaluated, and here frameworks such as the proposed by Rose 2004 can help defining this and how does this transfer work better. The challenge of this though, is that it should be completely led by the beneficiary country, and that they (beneficiary and donor) are aware of that, at least in a way that they hold the responsibility of what solution is coming in to be evaluated.

A second option that could help the dichotomy of window of opportunity vs. local problem development is a change in what an opportunity means for the donor. This is, in other words, that the conceptual solution to transfer itself has to change, and even the concept of solution to a problem has to change such that it is conceived a goal to promote the *local emergence of solutions*, instead of the development of specific solutions. This is somehow related to what was mentioned in the first contrast of 'Strengthening the position of international proponents', and requires a re-conceptualization of the work the donor itself is doing.

In the next section these gaps and proposed solutions will come again to be part of the joint approach.

## 6.2. COOPERATION BETWEEN FRAMEWORKS FROM THE CASE STUDIES ANALYSIS

Before going into a deeper analysis is important to remember that parameters from 1 to 6 correspond to ITF and from 7 to 10, are describing the PDIA. The first sub-section will analyze both case studies from PDIA and ITF, trying to convene to some first insights when comparing both cases. The second sub-section will analyze the benefits/challenges which have a common background between BDP and TRM.

### 6.2.1. COMPARING PDIA AND ITF

Figure 6.3 shows each case study with the main parameters influencing it from ITF and PDIA (refer to Figure 6.1 to see the assigned code of each parameter). In order to determine

from PDIA and ITF which parameters can be related, a count is done on number of repetitions that a parameters has in each framework according to the benefits and challenges of each case study. This is totalized for each parameter and then compared between the frameworks, in order to see if those parameters that are repeated in different benefits and challenges are common in both frameworks.

		Parameters												
		1	2	3	4	5	6	7	8	9	10			
<b>BDP2100</b>														
<b>Benefit</b>	The long term perspective brought to Bangladesh.	✓			✓		✓	✗						
<b>Benefit</b>	The development of a National Delta Plan that included multiple ministries and high level organizations.			✓			✓		✓					
<b>Benefit</b>	Money flow will be increased to Bangladesh by the plan development through international agents	✓		✓						✓				
<b>Benefit</b>	Long term commitment for the Dutch in the Delta Plan development and implementation.	✓		✓				✗						
<b>Challenge</b>	Low level of field stakeholders engagement and motivation on the plan development.		✗			✗		✗	✓		✗	✗		
<b>Challenge</b>	Until now, uncertainty about how will it actually perform and how capacities will be developed by each of the projects in the investment plan.			✓				✗	✓		✗			
<b>Count</b>		3	1	4	1	1	2	4	4	2	1			

		Parameters												
		1	2	3	4	5	6	7	8	9	10			
<b>TRM</b>														
<b>Benefit</b>	Long term solution to waterlogging in South West of Bangladesh							✓	✗	✓	✗			
<b>Benefit</b>	New social and build-with-nature knowledge			✓	✓			✓	✓	✓				
<b>Benefit</b>	Development of local capacities to solve waterlogging problem		✓	✓		✗	✓	✓	✓	✓	✗			
<b>Benefit</b>	Environmentally friendly case				✓		✓		✗			✓		
<b>Challenge</b>	There is no visible political will to change things from the higher level in the government.			✗			✓		✗	✓	✗			
<b>Challenge</b>	People doesn't want to give their land due to compensation complexities								✗	✗	✗			
<b>Challenge</b>	Distrust in the main implementing agency			✗			✓		✗	✗				
<b>Challenge</b>	Technical inadequacies while implementing TRM		✗					✗	✗	✓	✗			
<b>Count</b>		0	2	4	2	1	4	4	8	7	6			

Figure 6.3: Parameters from PDIA and ITF per challenge. A green check means that there is a positive influence of that parameter on the benefit/challenge. A red cross means that that parameter, in the specific case study, is hindering the benefit/challenge

After analyzing the comparison between cases, there is a first important relationship between parameters **3 and 8** that is recurrent. In the BDP case, in three out of four of the benefits and challenges, the parameter *hire and use proactive institutional entrepreneur* appears with the *creation of an "authorizing environment" for experimentation*. Also, in the TRM case, these relationship appears, but with a different perspective: every time parameter 3 is there, 8 also is, but not the other way around. This means that every time there an institutional entrepreneur working, the "authorizing environment" is a prerequisite. This entrepreneurial actor can be seen in the BDP case as the GED, who had that joining capacity *after* the "authorization" from higher positions to develop the Delta Plan in a more integrated way. In the Coastal Management case, the entrepreneurial actor/leadership came from agents in different moments, yet for the specific TRM case it started with local people's initiative, then gradually changing to the involvement of local NGOs and CEGIS eventually,

who 'echoed' the advantages and benefits in a higher political level. These entrepreneurs were *enabled* by a gradual "authorizing environment" from the government and even outsiders as ADB, to develop the Environmental Impact Assessment of KJDRP project. Later this authorization and entrepreneurship moved to BWDB, where things started to change.

This correlation is logical not only from the names themselves, but also - and mainly - because this *has to happen* when there is actually a relatively high interaction in the donor and beneficiary relationship. This is why although parameter 8 appears in all the benefits and challenges from TRM, it is not necessarily that international involvement has to be there. So, in a broader perspective, parameters 3 and 8 are highly comparable between PDIA and IT frameworks.

With a less broad relationship regarding the benefits and challenges of each case study, there are additional similarities between parameters in PDIA and ITF, which are pointed here with their relevance:

- The *long term perspective brought to Bangladesh planning*, has some parameters that can be related, number **1 and 7**. The difficulty in parameter 7 could be better explained (or at least partially), through a strong influence in parameter 1, which is the 'strong position of international proponents'. This interference can be interpreted as a "shadowing" from the strong "knowledge source" of the Dutch to the local knowledge. Although this is not clearly verifiable, it can be a possible point of collision between solving a particular problem locally and having a "strong Dutch knowledge" obstructing the actual local problems development.
- A similar relationship between parameters **1 and 7** appears in the *long term commitment for the Dutch in the Delta Plan development and implementation*. As the long term commitment has been done in a highly political international layer, and many efforts were put there, the local implementation is still a challenge there.
- In the challenge on BDP of *low level of field stakeholders engagement and motivation on the plan development*, the most relevant relationships between PDIA and ITF are two: the similarities between parameters **2 and 7**, where the focus of the problem definition appears when there is copycat transplantation of solutions. Also, parameters **5 and 10**, which are related between actors engagement and cultural differences, show the difficulties that may arise if not proper cultural difference is managed.
- In the benefit of *new social build-with-nature knowledge*, parameters **4 and 7** could be related, as the specific local problem definition was the window of opportunity to develop TRM as the initiative to develop the coast in Bangladesh.
- Parameters **2 and 7** appear again with a common role in the *development of local capacities to solve waterlogging* challenge, as a local problem definition that avoids copycat transplantation from abroad. This same behavior appears in the *technical inadequacies while implementing TRM*.

### 6.3. PROPOSED JOINT APPROACH: THE COOPERATIVE DEVELOPMENT FRAMEWORK

The correspondence just explained between some parameters in PDIA and ITF, together with the gaps and possible solutions identified in the first section of this chapter, can be

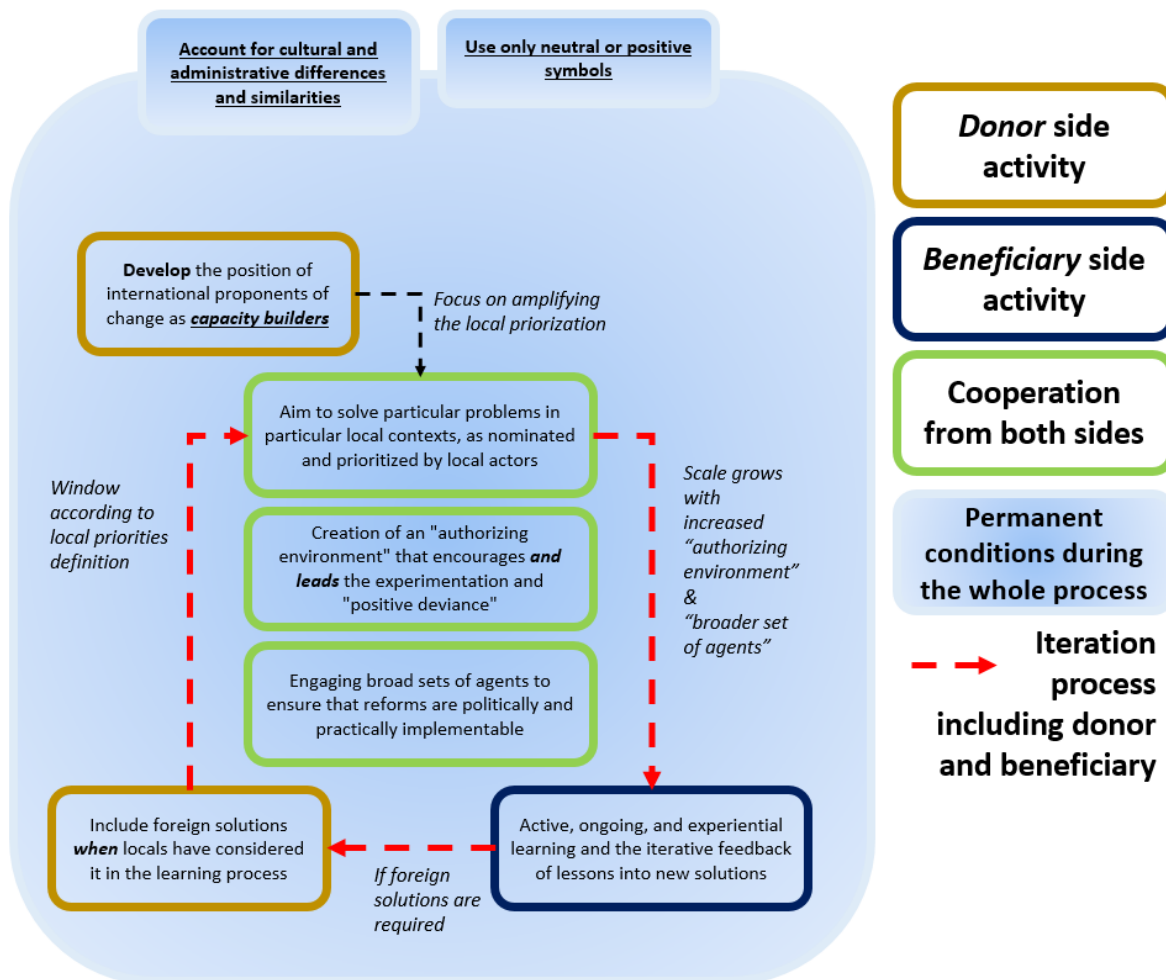


Figure 6.4: Cooperative Development Framework

translated into a joint framework represented in Figure 6.4, explained here:

- To start, the general process of developing international cooperation projects that consider the institutional transplantation *and* the PDIA system, should always be submerged in the parameters **Account for cultural and administrative differences and similarities** between the beneficiary countries. This constant environment should also take into account to **Use only neutral or positive symbols**.
- From the donor side, a change is proposed in which instead of *strengthening the position of international proponents of change*, the position should be portrayed as a donor that **Develops the position of international proponents of change as *capacity builders***.
- As parameters 3 and 8 seem to have a strong correlation from the analysis proposed, when seeing how an international cooperation work should work, both could be "merged" as: **Creation of an "authorizing environment" for decision-making that encourages *and leads* the experimentation and "positive deviance"**.
- Parameters 2 and 7 also show a strong relationship, which could be portrayed as: **Aim**

**to solve particular problems in particular local contexts, as nominated and prioritized by local actors.** This is kept in the same terminology as proposed by PDIA, because it seems to capture better the essence of why copycat transplantation is harmful for an institutional transfer, which was mentioned as a possible gap between ITF and PDIA.

- Parameters 1 and 7 show certain relationship in some cases which is worth highlighting. Although they are not directly related, a very strong or aggressive position from the donor could harm the actual capacities of local problem and solutions definition. However, with a *focus on amplifying the local prioritization*, it can enhance the local problem definition.
- Although the problem definition is key in PDIA, it is important to note that international intervention through windows of opportunity should be as restricted to locally defined problems as possible, and focused on local priorities. If done in this way, the learning process will be executed and led by the local organizations. This process is iterative, similar to what PDIA proposed for learning and growing and is represented by the red-dotted lines in Figure 6.4. The important point here, which adds to the iteration process proposed by PDIA, is that instead of donor's using windows of opportunity, it is necessary to **include foreign solutions only when locals have considered it in the learning process**. This iterating process will allow a more coordinated inclusion of foreign solutions in the local conditions, led by local people and expanded by beneficiary and donor's authorizing environments.
- To finalize, the responsibility of these activities is sometimes driven more by the donor side, the beneficiary, or a cooperation of both. This can be identified by the color of the box in Figure 6.4, with the legend in the right. The development of the international proponent as *capacity builders* and the foreign solution proposals come, of course, from the donor driven side. On the other hand, the learning process, iterative and experimental should be led and almost fully developed by the beneficiary country institutions / agents. In the middle, the local problem definition, the authorizing environment and the agents engagement should be done in form of cooperation from both sides.

To clarify a confusion that may arise here, the *Aim to solve particular problems in particular local contexts, as nominated and prioritized by local actors* should be led by the local people and organizations, however in view of what the ITF proposed, ensuring that the problem definition is locally developed instead of ambiguously 'avoiding copycat'. Also, with the new role proposed of "capacity builders" of the donor agent, the participation on problem development should promote, in principle, the local definitions and explorations.

#### 6.4. SUMMARY OF COOPERATIVE DEVELOPMENT FRAMEWORK

The Cooperative Development Framework (CDF) proposed here tries to include the relevant difficulties and benefits from the the Bangladesh Delta Plan 2100 and the Tidal River Management case studies when analyzed through two "opposite" frameworks, the Problem Driven Iterative Adaptation and the Institutional Transfer Framework. The factors / parameters proposed don't necessarily follow a strict order, however they highlight what

has to be permanent during the process, and what has to follow a set of key components, such as the learning loop and the international involvement.

Although both have differences in their approaches to problem development, and are highly relevant in the field they work, the idea here is to improve the connections that should be relevant for a local development *and* a donor - beneficiary relation from an international perspective.

There are two key elements that join both frameworks and are the way in which both approaches can be improved. First, the focus on local is critical, and although ITF portrays that copycat should be avoided, from the case studies developed here, it is more than required that copycat is avoided, but that any solution developed comes from an actual problem felt in the local conditions. Without this the development the solutions are, at best, luckily solving a problem.

Second, the importance of an entrepreneurial actor comes from the actual ability to have power (in the political context) and/or the knowledge to lead and solve the complexities of any project that is undertaken. Such actor can be an entrepreneurial one for either just the local or the donor side, however in order to take the advantage of such role, it should be an actor that leads both sides, boosting the local and managing the foreign one.

The complexities that appear when trying to match solution and problem driven approaches were summarized at the beginning of this chapter, and although the challenges are still there somehow, the CDF tries to overcome this challenges by proposing some possible solutions to this. A more extended discussion on the limitations of the CDF and the work developed in this research will be presented in the next chapter.





# 7

## DISCUSSION

This chapter will explore the expected benefits and challenges of the research presented here. First the limitations and challenges of the methodology used are portrayed, with the recommendations to overcome it. Then a zoom is made in the Cooperative Development Framework constraints and biases, and finally an exploration of the usefulness is done, pointing which actors should be interested in exploring this work further.

### 7.1. CHALLENGES AND LIMITATIONS ON THE METHODOLOGY USED

For understanding better the challenges faced between problem and solution driven approaches in international cooperation, which seem to oppose to each other, the Institutional Transplantation Framework and the Problem Driven Iterative Adaptation frameworks were selected, in order to see first, how these 2 opposite frameworks described reality compared with the case studies presented, but also to give a structure to the interests and necessities that international development projects bring. The selection of these frameworks is already a 'bias' in the way of viewing the world of international cooperation, which already leaves out some elements that these frameworks are not considering, however, as mentioned in chapter 2, they are somehow considered to be near representations of the extreme cases, problem and solution driven.

As mentioned in chapter 3, the selection of the case studies has been done according to what is believed that has been an approximation of solution / donor driven case (BDP2100), and a view of what is considered a problem driven one (Coastal Management projects with the focus on TRM), however the conclusions that are drawn from these cases are still limited and, although tried to be more comprehensive and non-fully context dependant, the context is also a bias that the research probably has included. Further research and evaluations in different contexts are required, in order to see whether the conclusions and methodology used here are relevant in other scenarios and what other factors may arise.

Regarding the interviewees, it is important to note that a high proportion of them were actually from the beneficiary side' and thus, the results and reflections may have a bias towards their own view of the situation and possible solutions, also, from them, a big part are from CEGIS, a partly governmental organization, which could limit the whole set of possible positions in understanding the case studies.

The proposed methodology of analyzing the information and matching it with the PDIA and IT frameworks, in the end of chapters 4 and 5, is proposed here in order to have a

quantification of how and why some factors are more relevant than others and where/why could they match together. Because it is a methodology that tries to quantify from qualitative data, it has the natural limitations of translating opinions and perceptions to numbers, where some things are difficult to translate. However it is believed that is still a suitable way to analyze this information.

The check done to find conflicting factors between PDIA and ITF was not necessarily following a proven way of checking frameworks (if there is such), so the methodology has a subjective bias towards what could be conflicting in the perspective of the author.

## 7.2. BENEFITS AND LIMITS OF THE COOPERATIVE DEVELOPMENT FRAMEWORK

The Cooperative Development Framework (CDF) proposed here aims to connect the two extremes of interests in a single framework. From the literature reviewed, there is no evidence that someone has tried to join both sides in a formal framework that includes the solutions and problem driven ways, so this work is considered up to now the state of the art on a way that jointly considers the donor and beneficiary countries' interests in project development.

The framework, as developed here, doesn't have strict guidelines or a specific order, and in this is rather similar to PDIA in that sense, however it tries to point out that all these elements are equally important always, and deserve the same relevance when talking about international cooperation projects.

There are weak points from the CDF that are important to point out clearly and that require further research. First, the basis of the framework was on PDIA and ITF, meaning that the scope, although important and probably broad, still will be limited to the considerations that these 2 frameworks have. Although this research tried to include more insights than the ones offered by the problem and solution driven frameworks, it is still strongly based on the view of these. Secondly, it is important to say that the work implicitly gives priority to the local development compared to the donor's interest, and thus, many times biased towards the PDIA approach, which can be seen in the iteration learning process that is taken from them.

A third point that has special relevance appears when coupling donor and beneficiary interests. In the CDF, it is assumed that donor and beneficiary should change behaviour regarding the interests of what they can take from developing certain projects. In simpler words, this means that, from the donor perspective it is assumed that they can change a purely profit oriented mindset to a longer-term oriented and relational mindset with the beneficiary country. This, thus, limits the range of application of the methodology to those cases where there can be a strategic interest, patience and time to develop local skills and a learning process, and sometimes even where the donors may not 'sell' anything at all. This is an assumption that, although not unrealistic, may limit the insights that this framework can offer to a donor actor in international cooperation.

From the beneficiary side, an important element that could question the applicability of the framework, is that the CDF proposes that the role of beneficiary actors/institutions should be of leadership in this cooperative development, and that somehow this should also be respected by the donor's actors. This assumption implies that, in a way, the beneficiary country has full 'ownership' over its institutions, and the international agents and

projects are subject to that, which is not always true.

### 7.3. WHY AND TO WHOM WOULD THE FRAMEWORK BE USEFUL?

After detailing some of the features and difficulties of the methodology, two questions are still not fully answered: in which situations and to whom exactly would the Cooperative Development Framework be useful?. To answer both, it's important to remember the focus of this research, which is on *finding a way* to join problem and solution driven approaches in international cooperation projects. In other words, the challenge is in how to meet the interests of donors and beneficiaries in a way that could benefit both, to actually develop relevant projects that can be long-lasting and appropriate by local people. With this present, the objective of this framework is to find common points where donor and beneficiary interests can be assembled and seen in a methodology that helps it. As stated before, there are limitations where this methodology can work and it will have to include other conditions, however is a first of -probably many- other ways in which cooperation can be further developed between donor and beneficiaries. It is believed that this work can open the doors to find better ways to consciously develop projects that can match the interests from both parties in international cooperation.

Regarding the second question, *who exactly would be interested in working on this methodology?*, it is considered that there is a growing concern on adequate project implementation from both sides (Fukuda-Parr and Lopes 2013). From the donor, the main interests are on adequate and proper implementation, but also on steering and promoting possible alliances and business opportunities. On the beneficiary side, the interest is mainly on adequate project implementation and successful empowerment, however also the money flow is key and is part of the relational interests with donor countries or agencies. Thus, with this two perspectives, the Cooperative Development Framework can help decision-makers related with international cooperation projects, in donor and beneficiary countries especially, with tools to define and set limits on the conditions of such projects, where it is believed that there could be opportunities for both sides and where it is not necessarily clear when to decide or how to drive the cooperation.



# 8

## CONCLUSIONS AND REFLECTION

This chapter will point some conclusions and reflections that can be taken from the development of a joint approach from solution and problem driven frameworks, as well as of the overall research proposed in this thesis.

### 8.1. ANSWERING THE RESEARCH QUESTION

To start and as a brief reminder, here is the main research question:

***How to match problem and solution driven approaches to improve policy implementation and acceptance?***

With the following sub-questions that helped answering it:

1. What are the specific characteristics that problem-driven and solution-driven approaches offer to help (or limit) policy transfer?
2. What and why are the benefits and challenges of a *donor-driven* project as perceived by donor and beneficiary actors?
3. What and why are the benefits and challenges of a *problem-driven* project as perceived by donor and beneficiary actors?
4. How can solution and problem-driven approaches be articulated from both donor and beneficiary countries' strengths and weaknesses?

The first sub-question was answered by the analysis done in chapter 2, with a broad analysis of the methodologies that fall in between supply and demand driven strategies. From here, the Problem Driven Iterative Adaptation framework (PDIA) was chosen as a 'representative' framework from the problem driven side and the Institutional Transplantation framework (ITF) was chosen from the supply side. Although there are more approaches in the field, these two were selected as they represented a - potentially - invasive donor approach, which was the ITF, and a capacity building oriented approach (PDIA),

which were factors that were the risks and potential opportunities considered important in this research.

These frameworks were translated into specific questions to analyze the case studies proposed, the Bangladesh Delta Plan 2100 (BDP2100), a 'supply driven approach' if compared with the other case study, and the Tidal River Management (TRM) case, which has more elements that make it a 'problem (or local) driven approach'. The analyses of these two case studies helped to answer sub-questions 2 and 3 in chapters 4 and 5. The summary of the results can be seen in Figures 4.6 and 5.8. Here, it is important to point out how the BDP2100 case was quite 'solution-driven' oriented when seen from the ITF perspective, and how the TRM case, was also more problem driven reflected, although not necessarily exactly as PDIA exactly. It is also important to say that the PDIA framework's parameters, in all the analyses showed a critical influence and possibilities of improvement opportunities when analyzed in the TRM and BDP cases. The ITF, on the other hand, had very limited influence and was critically dependant on local movements.

The fourth sub-question is answered in the proposal presented in chapter 6 by the joint approach and the *Cooperative Development Framework* proposed. The analyses done in the similarities and differences between PDIA and ITF under the BDP and TRM cases gave a some points of connection where problem and solution driven approaches can be joined. It is important to say that the proposed CDF joint approach, from a broad overview, tries to develop a set of steps that can be developed in coordination between donor and beneficiary countries, and it tries to portray the perspectives and (partial) interests from both sides taking into account the limitations and strengths present in the case studies analyzed. Thus, this approach can be seen as a first step of seeing the international cooperation set of interests as a whole, in projects development.

The joint approach, although tries to take many of the elements from the BDP and TRM cases, is also leaving away many relevant elements that couldn't be traced by the methodology of analysis proposed here. For instance, other elements such as the capacity of adoption or the challenges faced while bringing foreign knowledge weren't explored here, although they are key for defining the learning process in the beneficiary country.

After having the overview of the sub-questions, the main question remains partially unanswered: *How to match problem and solution driven approaches to improve policy implementation and acceptance?*

The joint approach offers a set of steps that can help developing international cooperation in a better way, including the strengths and weaknesses of donors and beneficiaries. The methodology proposed is just one of many possible ways of matching problem and solution driven approaches, however it is one that tries to focus on capacity building and international long-term commitment than other factors, such as financial. Figure 6.4 shows the framework developed here, which still has the gaps pointed in the discussion chapter.

By developing the strengths from the 2 approaches together, the path for policy implementation and acceptance can be improved, especially by growing better (and probably faster) the local initiatives, and by giving space to the local people to define their own problems, and not giving space to solutions only. The approach proposed here, is thus considered, a new approach when joining problem and solution driven approaches.

## 8.2. REMARKS ON PDIA AND ITF

Some relevant points that come from the individual case studies are the high similarity between the BDP and the Institutional Transplantation Framework, which confirms the kind of approach that the Netherlands used in developing the BDP, and the partial case between PDIA and the TRM case. The latter framework, although not present completely in TRM, shows that using the PDIA approach would already be a very useful help to face the challenges posed by it... however the difficulty would still be mainly in the institutional level.

There are some challenges that were proposed by the mere solution driven approaches which were related to the lack of connection with local needs, that it is just a bureaucratic set of moves, or that the solutions can be there but there are not really capacities. All these challenges are somehow addressed or partially tackled in the framework proposed, however this can only work if there is commitment from both sides (donor and beneficiary), or at least from one of them starting to do it in the proposed way.

A challenge that was present during the analysis of the frameworks studied and still remains, is regarding the problem definition and ownership. Although it can be a never ending approach, the fact that the joint approach proposes that the focus should be local even with international participation, it doesn't clarify what is "local". It can be the "local national government", the "local people" or the "local implementing agencies". This definition is tough and requires a synchronization and alignment between actors that is difficult to achieve. The main difficulty from this situation is that if there is no clear problem owner, the problem will never actually be solved, as new and new problems will always arise when new attempts come up, and will be in the same package as the initial problem, which will be constantly growing.

## 8.3. CHALLENGES AND FURTHER RESEARCH

There are, however some challenges that still have to be faced when considering policy implementation and acceptance, which are not clearly tackled by the work presented here and which are considered future areas for research. The first one, has to deal with the actual motivations for a donor country to develop local capacities. It is not clear yet why would a 'seller' (donor here) refrain to peddle its solution when also helping them to find their problems. So far, the perspective of the donor interested in a long-term relationship is considered to be 'strong enough' to move them to get involved in foreign development, however this assumption is still not a straightforward one, as the connection between 'good international relationships' and commercial benefits is not always there.

A second point that connects with the previous one is related to the local acceptance of international intervention. In the Dutch-Bangladeshi relationship, things have been going relatively fine so far, however this may not apply for other international environments. Also, even if international help is present there, is not clear how do locals keep the outsiders in limit of cooperation without intrusion, and also, how do donors keep distance when is needed from them; there is no clear line distinguishing both and it can be conflicting, and nothing ensures that donor and beneficiary will agree on keeping their limits... although this work tries to delineate that better.

Finally, this brings a point that can be improved, which is regarding the validity of the

model. Here the BDP2100 case and the TRM initiative (with complimentary projects) were analyzed and the model was developed from them, however more cases should be analyzed and studied from these framework to get validation, as well as exploring how other frameworks can bring added value to the proposed work here. The scope is limited and has to be verified and enhanced.





## QUESTIONS FOR INTERVIEWS

The following set of questions were asked to different actors selected from the different study cases, which gave room to answer the questions proposed in Tables 3.2 and 3.1:

1. What is the problem you think this project [Bangladesh Delta Plan 2100 / Tidal River Management / Blue Gold] is addressing?
2. How do you think the interaction of the donor (Netherlands) - beneficiary (Bangladesh) has helped in the development of the project? Why?
3. How does the donor intervene-approach the project development? How useful is it?
4. How does the beneficiary intervene-approach the project development? How useful is it?
5. What are the strategic goals from both sides (Netherlands and Bangladesh), as you perceive them?
6. What is the biggest difficulty (or pain) from the [beneficiary/donor] side? What is the biggest problem -according to you - from the other side, if so?
7. Were other solutions considered locally when trying to solve the problem? How did you reach to this solution for each problem?
8. What would be different if the donor (the Netherlands) was not involved in the project?
9. Can you recommend me other people or institutions to interview related to this topic?



# B

## ANSWERS INTERVIEWEES - BDP2100

The following are fragments of interviews that relate to each parameter on PDIA and ITE. The number before each answer is assigned to each interviewee. The anonymity of each interviewee is held. If further information is required, it can be given upon request.

### PDIA - 1. AIM TO SOLVE PARTICULAR PROBLEMS IN PARTICULAR LOCAL CONTEXTS, AS NOMINATED AND PRIORITIZED BY LOCAL ACTORS

**What problem(s) were defined and how were the problems (and if applicable, solutions) defined for this project? Who developed the definition of this problem?**

2 "JD: Could you tell me please about the process of BDP2100, how did it develop, it is a rather top-down approach, isn't it? EH: [...] It's a combination of top-down and bottom-up approach."

2 Why Delta Plan? (...) in our 5 year plan we have 13 sectoral chapters. Water was not taken as a sector there (...). That's why many other ministries have many other plans. Those aren't really implemented (...)when ministry of Planning or GED prepares a plan, it goes directly into the finances. So there is a high chance of being implemented.

2 With this BDP2100 we try to address climate change issues, to have a development of our country and associated to economic issues.

2 The investment plan wasn't prepared by dutch team. We sent letters to all the organizations involved asking for plans to implement: 'please submit your plans for the next 20 years in the water sector'. We received 200 proposals, we filtered them

2 ""JD: Was the BDP an initiative from Bangladesh side and then the Dutch came in? INTA: I think you cannot really differentiate it that way, because both parties had trust in each other. The Dutch had the expertise, BD Govt is suffering from Water management. (...) There was a demand from the BD govt and there was a supply from NL, so it's a big match.""

3 In that time there was a knowledge gap. Climate change knowledge was not that good by then (90s 80s). Still for BD not much available and also info about ground water not available. NWMP was approved in 2004, it was already a bit late.

4 So I suggested this 2 things in the plan. If we attempt this 2 things it would have been more useful for the govt and it would have been something new in BD: The environmental and how to fulfill the SDG part goals also in BD. SDG is not only environmental, is targeted 2030.

13 They (Dutch) don't know anything about the Delta Plan. The villages know things, they might not know it from the 'equation' science. They have the 'human' science.

23 Several visits of Dutch government officials, became instrumental in informing the Bangladeshi government officials about the resemblances in geophysical features, climate challenges, vulnerabilities in the deltas in the Netherlands and Bangladesh and in promoting Dutch delta expertise in Bangladesh.

23 The consultants followed a general framework in preparing the baseline studies for defining the projects in the BDP: reviewing current policy and assessing condition of the targeted sectors/themes while analysing identified problems, drivers or pressures, challenges and knowledge gaps.

23 [...] We do not need a delta plan. It is happening because Dutch has pushed it. Having a plan does help; you can focus on something. It could bring new type of finance which would help in planning of the southern part (the delta region). This gave a stimulant. A lot of donors are coming.

23 (...) The consultant team C observed low level of enthusiasm among the stakeholders about the BDP 2100.

23 Team A was assigned to develop projects that are more or less concrete based on the information and ideas that various ministries and agencies share and in consultation with them. Team C was entitled to make the investment plan based on the technical inputs of team A.

23 The project ideas that they came across either were already shared with team A or was more of a 'wish list'; they observed that some agencies and ministries attempted to recycle their old projects under the BDP 2100 implementation program. On the other side, GED was disappointed with lack of participation and motivation of the ministries and their agencies in providing project portfolios, which GED observed mostly sector-based.

23 The 80 projects were then grouped in accordance to the six delta plan hotspots. Within each hotspot program, projects were prioritized and sequenced along adaptive pathways to identify how economic and climate change scenarios affect when a change in approach is needed from one type of project to another.

23 The World Bank sought for detailed analysis; team C managed to convince them that they could not do any further detailed analysis with the generic nature of information that they received.

## PDIA - 2. CREATION OF AN "AUTHORIZING ENVIRONMENT" FOR DECISION-MAKING THAT ENCOURAGES EXPERIMENTATION AND "POSITIVE DEVIANCE"

### **Was there an authorizing environment to develop the initiative? From whom and how was this support received to implement and make the changes to the proposed plan/project?**

1 There has been an institutionalization of the approach that the Dutch and Bangladesh develop together (...), in central level planning we're quite involved.

1 The leadership of the planning commission has been quite strong. It's about leadership, convening power, those kind of things. This has worked. The resistance, which you always have from the sectors, is also there. In particular the water management sector, because they think is theirs.

2 JD: I haven't talked with BWDB yet... INTA: They would then say, oh yeah, we were excluded (...) Because they thought it should be led by them, as it was a water related topic. They think it should be led by them. They could've prepared a good plan, but it wouldn't have been implemented.

2 There were many conditions in the tendering, like x% of young people, or y% women. That's promoting your (Dutch) people, but is a national document for Bangladesh, you cannot jeopardize expertise just by promoting those people. We got a team, that we're not completely happy with, we did not get the best. As a result, we consider that most of the tasks have been done by the local, sub-contracted firms, like CEGIS, IWM. They did the main basic works, the Dutch expertise just came, supervise and guide, but not the real work.

3 Plan is there, but success must need a Delta Commission, which will supervise the Delta Plan, and a Delta Fund must be created. For this we need a Delta Act. Dutch govt. also agreed that next 4 years they will support.

3 Let's start in 2010. At that time, Delta Plan was there (in NL), and they were pushing (telling about it) it everywhere (Vietnamese govt) and Bangladesh. The ambassador visited the prime Minister and discussed about the Delta Plan. She was interested and made a request. It started in 2010 with a small study.

6 The components of the FAP were supported by various development partners, from 92-93 to 2001-2002. And then also some developments took place in 97 again the NWP policy (National Water Policy), because we never had water policy. In 98 the final doc was presented and was finally approved in 99. Then it was the National Water Management Plan (developed by WARPO) was finally approved in 2004.

6 Then there was a need felt by local govt and Water Ministry to develop a guideline to develop participatory water management, and in 2001 that began. By then already ADB and Dutch started funding the local participatory water resource plans. In that spot we already identified that cooperative would be the best legal status for WM associations.

23 The mission members foresaw a stagnation in water cooperation in the long run. One reason the members identified was lack of capacity development in Bangladesh Water Development Board (BWDB) and their power struggle with different influential ministries, for example, the ministry of agriculture. The mission members also observed the outcomes of previous cooperation programs in Bangladesh have been limited for the Netherlands which include Dutch support in formulation of the Bangladesh National Water Management Plan.

23 The DPT concluded their mission to enhance commitment as very successful where they established commitments for a delta plan from the highest level of the GoB and a wide range of stakeholders. They suggested for a new memorandum of understanding (MoU) that they identified would provide a solid base for the delta plan cooperation, and emphasized on finding investment mechanisms for plan implementation from the beginning, which can support a wider acceptance for the plan.

23 Ensuring and enhancing political commitment and institutional support from the GoB towards the BDP 2100 was a significant concern in the Dutch led guidelines, especially due to the formation of a new parliament in early 2014, amidst a risk of power shift in the current government.

23 Both team C and the World Bank expressed their concern about the feasibility and acceptance of the proposed reform in the governance, in which they found the idea of the commission is more of a dream than reality.

23 One question that came up from this research was about the required skills and expertise in the processes of transfer and translation of Dutch delta knowledge – is it being a local and influential consultant, or having diplomatic skills and expertise on negotiation to influence local governance – its key actors or the institutions.

**PDIA - 3. ACTIVE, ONGOING, AND EXPERIENTIAL (AND EXPERIMENTAL) LEARNING AND THE ITERATIVE FEEDBACK OF LESSONS INTO NEW SOLUTIONS**

**Were there learning processes involved, how were they? Where they feedback lessons to enhance capacity?**

2 JD: I haven't talked with BWDB yet... INTA: They would then say, oh yeah, we were excluded (...) Because they thought it should be led by them, as it was a water related topic. They think it should be led by them. They could've prepared a good plan, but it wouldn't have been implemented. 23 GED finalized a list of participants. At least 120 people mostly representing ministries joined the workshop, however, no representation from political parties and local NGOs which contrasts the emphasis given on their participation in the preparatory report and project document.

**PDIA - 4. ENGAGING BROAD SETS OF AGENTS TO ENSURE THAT REFORMS ARE VIABLE, LEGITIMATE, AND RELEVANT - THAT IS, ARE POLITICALLY SUPPORTABLE AND PRACTICALLY IMPLEMENTABLE**

**Which actors/agents were involved to legitimate the actions proposed that could enhance trust of the initiative?**

1 JD: Why did the BWDB shrank? INTA: Because they performed badly. It's an old style engineering organization... They build an infrastructure and then they go home. It's badly operated, maintained and managed.

1 I think Bangladesh never managed to modernized their water sector institutions. These are institutions which always remained weak and they never went into this more multidisciplinary, decentralized water organization.

1 Then we said, for Bangladesh, from the lessons learned, you need to do it intersectoral, with a strong intersectoral body... and the (Bangladeshi) Government said, ok the planning commission is there.

2 JD: Do you agree that the Dutch contributed to join efforts here, from different ministries? INTA: I agree with that, that was the main purpose. We had the responsibility to lead, but that definitely helped.

2 The investment plan wasn't prepared by dutch team. We sent letters to all the organizations involved asking for plans to implement: 'please submit your plans for the next 20 years in the water sector'. We received 200 proposals, we filtered them

3 JD: What do you think was the advantage of Dutch presence in the policy here? Helpful for joining actors? INTA: Let us say that they acted as a catalyst.

3 "JD: Why GED and not WARPO? Who decided that? INTA: You need to sell yourself, you have to be a service provider. That means you create demand. That didn't happen in WARPO. We thought that if we give to WARPO or BWDB it will be a similar story and it will be empty. It needs something new. We pushed that idea. "

3 You need money for a plan. So where is the money? From the very beginning of our project, we knew we needed to involve all the stakeholders. This was moneywise stakeholders. World bank, and other banks.

6 "JD: The implementation was in hands of who, BWDB? Z: Local govt engineering department (LGED). Is not BWDB. LGED do all type of infrastructure projects. Since 1995 they are also doing water resource -related projects. Small ones. That was the policy shift, that govt found the benefit of involving LGED in small scale water resource projects. That has proven to be a successful model."

23 The GoB sought advice on delta management from their Dutch counterparts in 2009 through an official letter that was sent from the Prime Minister's Office to the ambassador of EKN-Bangladesh. The GoB assigned the task of drafting the letter to CEGIS (Centre for Environmental and Geographic Information Services).

23 The major reason that a GED official implicitly mentioned for the low enthusiasm towards formulation of the plan was the reluctance of some GED officials in facilitating another Dutch-driven process about which the interviewee further described: We were in the supply side of a donor driven process.

23 It was signified in both the documents that the plan needs political support and support from International Financing Institutions (IFIs) and donor agencies.

23 Participation of focal points from key ministries was one strategy to ensure wider participation of the GoB stakeholders.

23 "EKN-Bangladesh started promoting the BDP 2100 in organized meetings with various country ambassadors and heads of donor organizations before the project officially commenced in August 2014 in order to mobilize (financial) support for implementation of the plan. This joint effort resulted in a tripartite MoU signed between the GoB, the GoN and the World Bank Group including its private sector arm, International Finance Corporation (IFC), in June 2015 for cooperation to implement the BDP 2100."

23 GED finalized a list of participants. At least 120 people mostly representing ministries joined the workshop, however, no representation from political parties and local NGOs which contrasts the emphasis given on their participation in the preparatory report and project document.

23 The strategy of team B to translate scenarios as policy options, using economic projections, establishes a linkage between economic and political interests and implementation of the BDP 2100; and this is what GED desired for to get political buying of the government.

23 A GED official explained: Scenarios can change in many ways. Scenarios can differ to sociologists or to anthropologists or to economists. [...] They (team A) talk much about scenario building. Scenario building is a probabilistic thing and they never say what the level of probability is. Another official elaborated: This (to get approval for the BDP 2100) is a political decision. [...] Their (team B's) approach helped us to justify the delta plan, to establish the delta plan.

23 An interviewee who closely worked with both teams elaborated : It is not a matter of responsibility. It is a matter of showing that we are the champion of the BDP. Not both of them can be the champion, is not so? [...] It is a matter of intellectual fighting. Fighting between the two teams of consultants. [...] They fought to put themselves at a top level in water management (consultancy).

23 GED convinced BWDB (to facilitate implementation of BDP 2100) and others with a promise to allocate maximum number of their proposed projects. They also negotiated some of their ideas on reforming BWDB and managed to portray the Delta Commission as a place for strengthening capacity of BWDB and other opposing institutions and ministries.

## INSTITUTIONAL TRANSPLANTATION - 1. STRENGTHEN THE POSITION OF INTERNATIONAL PROPONENTS OF CHANGE

### **Which and how were international actors engaged to participate in the initiative?**

1 The Netherlands was seen (and still is) as a source of knowledge, or independent advisor for BD. The knowledge of the Netherlands has been pretty much of knowledge devel-

opment, education, advisory, that is more important. Our role as investors is going down.

1 We (Dutch) have our ambition as a worldwide supplier of knowledge, capacity on WM, also nowadays on Delta Development. That's a branding we have and want to keep. Our brand is as a supplier of expertise, and in the longer run, in other domains it helps.

2 The Dutch had the expertise, BD Govt is suffering from Water management. INTB: We have cooperation with NL, they helped us to prepare polders in our country, 159 in 1960s, and they also work in the Blue Gold and others they finance. They have given us the technical knowledge.

2 The Dutch are known from Water Management Expertise in the world, and no other donor would be more suitable than Dutch (for Delta Plan). You know that we followed the adaptive delta management, which is very new to us, we're not having such methods and technology, so Dutch are champion in this respect. We learned a lot from their expertise, especially in the political sense, mobilizing political forces here. Other countries would be experimenting here, Dutch are not, they experimented in their own country.

2 All started in 2010 actually. It started from the Prime Minister's office mandate to start this 5 year Delta Plan process, so planning ministry, then in 2012 it started the lead by GED.

2 JD: Why you asked the World Bank to fine tune?(...) Also because if World Bank is involved, other donors can be easily involved.

3 The method they (Dutch) have developed is a story, the scenario based, is different. In this case is a different way of acting. It's called Adaptive Delta Management. When you talk with others, you also feel how your brain opens.

3 In 2010 Delta Plan was there (in NL), and they were pushing (telling about it) it everywhere (Vietnamese govt) and Bangladesh. The ambassador visited the prime Minister and discussed about the Delta Plan. She was interested and made a request. It started in 2010 with a small study.

4 I think they missed some golden opportunities, as any other planning exercise. The challenge is to see how can we suppress or reduce the impact of the development of the country. The 100 year plan should have had this into account, I expected newer things.

4 "I have heard that they somehow managed to bring actors together... do you agree with that? INTA: Yes yes."

6 ADB Does not work as a donor, is just a bank, we work by loans. Dutch they are the donors really, critically speaking, they don't take the money back. But they are all development partners. The objective is similar, but the money works different, ADB's is loan, Dutch is a grant.

6 Delta Plan, it evolved from Dutch assistance in the IWRM. I worked from 94 to 2005 as a consultant for the Dutch.

6 USA supported BD to develop a Master Plan, that was called IECO Master plan, the name of the Consulting firm.

6 Eventually other projects such as the Earlt Implementation Project (EIP) funded by the Dutch, BG then IPSO (Integrated Planning for sustainable Water... something like that). but again there was another big flood in 87-88. Then the FAP was prepared and 26 components were identified, looking at various zones and issues, topics, etc.

6 In the 2002 II phase, Dutch came in, only ADB and DUTCH. (...) That has significantly contributed, increased the crop intensity. So, now from 1 to 2 or 3 crops. So the cities are flooded with vegetables.

6 Late 90s ADB and the Dutch thought that as the govt took that reform program of



the BWDB (because the perception of the govt was that there are lots of shadow posts, as gate operators, typists...). The World Bank and NL worked and tried to do the 'Water Sector Improvement project', but when the new government came, that project didn't see the light of the day.

6 During FAP, 15 development partners supported the Water Sector. UK (FIMIN), USA (USAID), not much water sector now... Now is mainly WB, ADB, Dutch and Japanese. They are doing similar small scale projects.

13 Netherlands is not much about aid, but more trade (...) Their focus is on possible trade. We proposed the technology, and then we say come and help us in this. they take the knowledge from here and take it somewhere else. They are also learning, come here to learn in various projects, etc.

13 They have to spend the money (in help, aid or whatever), and the reason is that it helps to open their businesses. All this aid has 4 purposes, 1. to open doors to my own businesses, 2. to employ my own people, 3. To create influence the system, 4. To help the system is there is money left.

13 They are not here to help a 'unsolvable' problem, but to learn and we do so also... you're here to work on delta plan, good idea, but you cannot make a 100 year plan.

13 But to think that the Dutch know much better about how the delta is formed?... they don't have a proper delta. You have to come to BD coast to see a proper delta. The Rhine was stabilized thousands years ago... unlike here. Any donor is learning in this process...

13 Do you know FAP (Flood Action Plan)? It was a plan from all donors (dutch, british, germans, french, etc.) to stop flood in BD. They proposed it, but we stopped, they didn't understand... people said we need that flood, that's how our fertility works here... that was in the 70s (...) there were big fights to make them (and us) realize that.

13 "JD: What would have been different if the donor was not involved? AR: There wouldn't be money, that's the main thing."

23 The Dutch promoters portrayed that the vulnerability of Bangladesh to climate change and corresponding impacts from projected increasing incidence of natural disasters can disrupt the GoB's effort to maintain a progressive economic trend towards the year 2021. They characterized the existing plans and policies in water and agricultural development as sector based, short term and imprudent in nature.

23 The ambassador reflected on the adoptability of the approach in Bangladesh on accounts of the common geographical and biophysical features and climate challenges that both Bangladesh and the Netherlands share. The ambassador invited Bangladeshi premier to visit the Netherlands to experience the superior functionality of Dutch delta planning and management.

23 The visits of Dutch government officials in a mission to promote their delta expertise, thus, can be identified as a form of work to problematize the delta in Bangladesh needs Dutch support.

23 The suggestion for forwarding a request for Dutch delta expertise in the form of a letter came from the GoN side; for having an artefact that can be more or less used by Dutch promoters in other deltas to show an increasing demand for their delta expertise in Bangladesh.

23 "In May 2012, Bangladeshi Planning Minister and Dutch Minister for Development signed a MoU - "A sustainable delta, a prosperous Bangladesh" on behalf of their respective governments, as suggested by the DPT. In the MoU, the countries agreed upon closer coop-

eration in sustainable delta management, integrated water resource management, disaster management and adaptation to climate change;"

23 One eligibility for a consortium of consultants to bid for the tender was having prior experience in Dutch delta planning. This criterion minimizes competition for Dutch organizations with consultants of other countries in the open European Union awarding procedures. This strategy clearly supported creating economic opportunities for Dutch expertise in development programs, a key policy decision of Dutch government on development cooperation that they revised in 2008.

23 The consortium forming the team A was mobilized in March 2014 with eight partners and three subcontractors, out of which two were Bangladeshi organizations - CEGIS and IWM and the rest were Dutch.

23 The interest of the World Bank towards BDP 2100 implementation configured as a strategy to reinstate their credibility to the GoB, after they cancelled a USD 1.2 billion loan for a river bridge construction project in 2012 with allegation of corruption by some GoB officials.

23 It seems that they ultimately negotiated their (EKN) interests and suggestions with an objective to create ownership from the Bangladesh side and maintaining their alliances with GED, a new partner in Dutch cooperation in Bangladesh.

23 One source of the common resentment, thus, originates from the Dutch efforts to create alliance with comparatively more politically influential actor, while making compromise with existing long-term alignments.

23 Team B did consider the scenario development a necessary planning exercise in showing the necessity of a (Dutch) delta plan to many people in the country and importantly, the outcomes of investing a 2% of the GDP to the government.

23 In their efforts, they considered several political components in the framework of a bilateral development program with an objective to ensure continuity of (Dutch) delta planning in Bangladesh.

23 As part of their promotional strategy across worldwide deltas, it has been highlighted that it is the GoB who sought Dutch assistance in managing their deltas; thus, hiding all the work (appeared to be black boxed) which were promotional, strategical and diplomatic in nature.

#### INSTITUTIONAL TRANSPLANTATION - 2. AVOID 'XEROXING' (COPYCAT TRANSPLANTATION) – USE MULTIPLE MODELS AND GO FROM THE GENERAL TO THE SPECIFIC

**Was there a copycat translation of an idea? How was the process of bringing/implementing a foreign idea into the beneficiary country? To what extent was it actually a "copy" of ideas?**

2 "JD: So it seems that -in the elaboration of the final document- the Dutch weren't pushing too much for their side or specific ideas. . . it's what I perceive. TR: I think at some point the local leader in the GED had to define the preference of direction and he went for supporting the local team. He wouldn't accept just outside view. We would analyze first, the PRI and we thought it wasn't enough, then we convinced him to have the teams and that we could make a combined version of the documents (PRI and BanDuDeltas). We did that and he accepted that. Team A did their report and they sent it to us AND to the EKN as well being a bit scared. But now both parties (Team A and PRI) are happy, it is necessary."

2 we're happy, but not that much, because much of the work was done by local companies (BD). The technical part was good (from the Dutch), but the strategy was very weak

and not very linked with scientific models. There has been model we asked to Deltares but we haven't received it until now... The scenarios are not really fully validated with models... We didn't have much time to consult, we have something now, but it can be improved in the future. There was a coordination problem within the dutch side. The work can be improved, it has to be updated, but is not from 0 anymore!

2 "HR: The technical studies were depending on them, the dutch. The whole document was revised by GED. TR: IT's funny because if you ask them, because if you ask the dutch, they say is their doc, if you ask the other, they'd say the same... but it is actually GED's document, we took the information from both sides and mixed them. GED fine tuned this document, it took dutch document (which was weak in language, we were very unhappy with it, I don't know why)."

6 "Prior to that local govt and water resource planning (WARPO) felt the need that participatory WM is should be the main vision of the govt. By the the Water Board already constructed 760 (something) schemes, so it required especial operation and maintenance. The government cannot be 100% responsible of the whole operation and maintenance of this. Then there was a need felt by local govt and Water Ministry, to develop a guideline to develop participatory water management, and in 2001 that began. I participated that from the Dutch side, it was approved in 2003, before the National Water Management Plan. So the guidelines were very crucial. By then already ADB and Dutch started funding the local participatory water resource plans. In that spot we already identified that cooperative would be the best legal status for WM associations. "

13 "JD: So you specifically say that the BDP2100... AR: They don't know what they are doing! They want to plan, plan what? Do they know the effects of climate change in 20 years? JD: yeah, but the plan is from the BD govt. . . AR: Yes, but this is the way in which the Dutch want to deal and propose the problem, is in their way... somehow is not a donor-recipient relationship. They have their interest, I have mine and is my duty to protect my interests.."

23 The objective of scenario development in Dutch delta planning is to identify four key Scenarios which are storylines of different futures (not a forecast or prediction), driven by external factors that cannot be influenced, for example climate change (Haasnoot and Middelkoop, 2012; Van Notten, 2005). The feasibility and robustness of proposed planning strategies are then assessed in context of the developed scenarios. Careful assessments are made to decide which strategies will be prioritized in the planning.

23 "From the beginning, the consultants thought of following methodology of scenario development from Dutch delta planning; also a criterion mentioned in the tender document. Thus, they had Dutch delta scenario drivers – socioeconomic development and climate change in mind for the BDP 2100. However, transboundary water sharing and upstream development emerged 'very strongly' as drivers selected by the workshop participants. The consultants decided to combine climate change and transboundary water management together on the horizontal axis of a four quadrant scenario framework in a bid to cover maximum externalities that may affect water conditions in Bangladesh (Van Aalst et al, 2015). "

23 The consultants first named the four scenarios as productive, resilient, congestion and stagnation and later changed into four Bangla names to capture key notions of each scenario in Bangla – a strategy to create easy understanding which the consultants expected can lead to increasing acceptance. However, the naming, especially the notion in

that of congestion and stagnation about a 'possible' low economic growth under a business as usual context (traditional economy) was not appreciated much: [...] naming of the scenarios became almost a highly political act because if it is sounded too bad, people will think we in the delta plan desired a bad future for Bangladesh, a consultant reminisced. In the process, the congestion and stagnation were renamed as moderate and active scenarios.

23 The GED officials and invited experts questioned the data used and projections made in the scenario development, which they observed to be inconsistent, backdated and questionable. For examples, use of IPCC global average climate data instead of localized data; absence of a land use scenario; and four common scenarios for all six hotspots which are distinct in hydro-geophysical features. Team B leader, who was also present in the meeting, emphasized on the need of providing policymakers pragmatic scenarios through an economist's lens; he suggested for a what if scenario-without delta plan 2100. The team B leader criticized the notion of a stagnation scenario (see footnote 19, p. 10) as a waste of time as it is obvious that policymaker will not let the country go to ruins .

23 Drawing the ideas from 'the three Ds' of Dutch Delta Programme, a Delta Act, a Delta Commissioner and a Delta Fund are proposed in the BDP 2100 from a beginning of the planning. The proposed adopted Dutch delta institutionalization was integrated in 7th National Five Year Plan of 2016-2020, describing that a delta act will provide legal coverage for establishing a delta commission and delta fund.

23 Meanwhile, the leaders of team A and C developed conflicts in opinions; team C leader observed team A had attempted to copy or sell Dutch elements in Bangladesh which he considered a lousy approach, especially, establishment of a Delta Commission and a delta fund.

23 In the research, it was evident that GED did influence the expected outcomes of Dutch delta knowledge and attempted to control the planning to portray the process as more 'Bangladeshi' than 'Dutch'. One significant example of this was the way scenarios were developed and translated eventually into policy options in the planning.

23 The scenarios, then, were translated into policy options attached in a macroeconomic framework to exhibit the economic benefits of adopting the BDP 2100. In this case, scenarios became an instrument to make the (Dutch) delta plan politically palatable with Bangladeshi (political) flavour.

### INSTITUTIONAL TRANSPLANTATION - 3. HIRE AND USE PROACTIVE INSTITUTIONAL ENTREPRENEURS

#### **Which were the actors promoting the idea/project in the local context?**

1 "PdV: The leadership of the planning commission has been quite strong. It's about leadership, convening power, those kind of things. This has worked. The resistance, which you always have from the sectors, is also there. In particular the water management sector, because they think is theirs."

1 "JD: What didn't work there (the NWP)? PdV: Because it was an intersectoral plan made by one sector. So it was institutionally-wise not so good. Then it was supposed to be agreed upon all sectors, by the natural water resources council, chaired by the prime minister, which has meet 2 times since 2000 or something like that, and then the executive committee also never met, so there was no intersectoral agreement on it, there was no leadership, and it remained like a plan of the water sector, and also this marginalized WARPO, which up to now is a marginal organization."

1 "(...) and also this marginalized WARPO, which up to now is a marginal organization. Then we said: 'this doesn't work', and the Dutch were developing this Dutch Delta Plan around 2006 or so. Then we said, for Bangladesh, from the lessons learned, you need to do it intersectoral, with a strong intersectoral body... and the (Bangladeshi) Government said, ok the planning commission is there."

2 EH: Actually at that moment I was working in (inaudible) relations in the Ministry of Finance. And I worked for the desk that was supervising the Dutch-Bangladeshi cooperation. So initially they thought it was going to be channeled through the ministry of water resources, but when the prime minister's note came that the plan is going to be implemented, then they assigned the task to the ministry of Planning Commission.

2 TR: You can understand that water is not a sector here, but it needs inputs from all sectors. That's why it has to be holistic. And only planning commission can do that.

2 However the Planning Commission has a superior authority, and that plan (from Min of Water) didn't have a clear indication of how the resources would come. It was 2004 and 2005, by then the IPCC report wasn't that much developed.

3 "JD: Why GED and not WARPO? Who decided that? GC: Is a sensitive question. I have been in the planning center for a long time. Actually I started my career in WAPDA then WARPO, mainly with planning. I am a planner. Also at one time I was the GD of BWDB and WARPO, and then CEGIS (for 8 years). Before coming to CEGIS, I was a public servant, I wasn't concerned about money. But it changed for me in CEGIS. You need to sell yourself, you have to be a service provider. Is like selling an iPhone. They created demand... we don't need them though. That means you create demand. That didn't happen in WARPO. We thought that if we give to WARPO or BWDB it will be a similar story and it will be empty. It needs something new. We pushed that idea. "

3 "JD: Why did the Prime Minister decided to go for another plan knowing that there was already one? GC: I'd say because the failure of WARPO. They couldn't be in the driver seat. It was not a very proactive organization. Everything in BD has to be in money terms. That's very important here."

3 GC: Let's start in 2010. At that time, Delta Plan was there (in NL), and they were pushing (telling about it) it everywhere (Vietnamese govt) and Bangladesh. The ambassador visited the prime Minister and discussed about the Delta Plan. She was interested and made a request. It started in 2010 with a small study. I was part of that as a team leader, in CEGIS as executive director. The Dutch govt was planning to finance such plan. But they were skeptical about political commitment (the Dutch).

6 I think the mindset of BWDB has changed and is opening to multidisciplinary thinking, but unfortunately it as a whole is not completed yet.

6 "JD: Just to grab and summarize. You think that there are difficulties of implementation with the water board? Z: Yeah, there have been difficulties, which came on engaging consultants, technical assistance, but eventually the good positive direction is the new set up of recruitment in a massive way. Otherwise they cannot absorb the finance of the development partners. We try to feed them, but they have to absorb. There are so many projects, that if is not clear how BWDB will cope with them, then Development Partners won't go further. At the moment there are huge projects in the pipeline also."

23 The team comprehended that WARPO (Water Resource Planning Organization) that led the formulation of the NWMP 2004 lacks required institutional arrangement, political clout and dynamic leadership for dealing with politically influential, senior level officials

of various ministries. They rationalized that the delta plan is not going to be a traditional water management project that WARPO has experiences dealing with.

23 At the end, the DPT preferred GED on account of their responsibility and experience in formulation of national plans, medium and long term guidelines and their (political and) institutional capacity to coordinate different (influential) ministries and agencies. With this suggestion the DPT team then had to create interests for a delta plan in GED and Planning Commission officials and convince them for collaboration.

23 'Why GED?' became a common remark from many of the critics, especially those belong to agencies of Ministry of Water Resources like WARPO. They mentioned an influential administrative position does not make GED a suitable organization to make a water-centric delta plan.

23 A GED official explained: We have long experience for long time how to write and express the anticipation of the government. [...] The team A was very useful to draw lessons of the Netherlands on how to develop a delta plan. [...] We need Bangladeshi experts who have previous experiences of writing plans. That is why, we have integrated the team B. That does not mean that we demean the team A. We never did. We took the technical knowledge inputs from them. It is just that none of them have experience in writing a plan. [...] They (team B) are national geniuses, it is easier now to say that we prepared it with our own genius taking technical help from the Netherlands.

23 It was clear that the GoN recommended to position GED on the driving seat of the delta planning in Bangladesh because of their influential position and related jurisdiction on approval of projects. The involved GoN officials and consultants consider the partnership with GED a good decision, which reflected also in the midterm review of the formulation of the Bangladesh Delta Plan 2100 completed in December 2015. This new partnership, however, has created resentment in many former and current government officials from relevant water ministries and agencies who were long term partners in Dutch funded water projects and programmes in Bangladesh. The resentment was observed in the groups of government officials who developed, mobilized and support the NWMP (2004), the plan which was partly implemented is now evidently shelved with the formulation of (another) new water-centric plan.

#### INSTITUTIONAL TRANSPLANTATION - 4. RECOGNISE AND USE WINDOWS OF OPPORTUNITY WHEN THEY APPEAR

##### **What windows of opportunity occurred to implement the initiative? Was there a feeling of crisis or emergency around it?**

1 "JD: Tell me a bit more about the case in Indonesia. PdV: There was development cooperation in the east of Indonesia, which was more like Africa than south-east Asia. Poor, dry area, where our traditional aid worked there. Meanwhile, in the traditional cities had completely different programs, also flood control but with a social impact, there were far more commercial opportunities which were developed at the same time, it was like a 2 or 3 prompt approach."

1 Rural sanitation in East Indonesia, that's not much of a commercial perspective, something like southwest here (BD), but still was part of our complete approach. Sometimes it can be found a common ground. In Jakarta we had major problems in floods, which hit the poorest more, as they lived in the lower area, and the houses there (inaudible but seems that something with the roofs), there you could find some common ground, but in BD we haven't found that much common ground, yet.

2 BDP2100 is Water Sector Plan, so focus in in WRM, but also Food Security, WM, Sanitation and Environment. Actually in our system we prepare regular 5 years plan. And although we had past plans, the climate change issues were not addressed in our regular planning. We have a national strategy called the Sustainable Development Strategy, and there the first initiatives. From our GED perspective, GED is responsible of preparing short, medium, long term plan of the country. In our initiatives, we didn't consider the climate change issues earlier, and the national sustainable development strategy. We tried to put some of the strategies which would have been helpful in regarding climate change issues, although it was not in a scientific basis. We do have some initiatives: the Ministry of Environment they have prepared in 2008 CCSA (Climate Change Strategy Action Plan) and based on that there are some sectors on the 5 years span, but much was without scientific basis. We had some plans in 2005 which also didn't address (Water Resource Policy and Water Resource Plan) and that plan had also other problems, related to other ministries which the ministry of water resources alone couldn't just deal with or coordinate.

3 In that time there was a knowledge gap. Climate change knowledge was not that good by then (90s 80s). Still for BD not much available and also info about ground water not available. So, it is a short, medium and long term. Short for 5 years. So as it was approved in 2004 it was already a bit late. Some of the donors did not find it very seriously. WB did some investment, but not at large scale.

13 "AR: The idea of NL bringing the polders, there are 3700 sluice gates, and 3200 don't work. The Dutch didn't know how the sediment works, they don't have that there... they don't understand sedimentology well. Is important in BD delta, in Brazil, in ..., but is not important in Europe... So yeah, they are learning, they're not fools."

23 In 2008 during the time of national election the (current) government set up a political aspiration to attain a middle-income country status by 2021 (the vision 2021), upgrading the country's position of a developing nation (Perspective Plan of Bangladesh, 2010-2021). One economic strategy the government adopted towards realizing the vision is to maintain a steady GNP growth rate of 6 to 7% . The Dutch water sector promoters for example, embassy personnel, officials of ministries of foreign affairs, and infrastructure and water management, focused prevailing on the GoB for a (Dutch) delta plan by implicitly questioning the attainability of the envisaged middle-income status by 2021.

23 Afterwards several visits of Dutch government officials, notably the then minister from the Netherlands Ministry of Infrastructure and Water Management , became instrumental in informing the Bangladeshi government officials more about the resemblances in geophysical features, climate challenges, vulnerabilities in the deltas in the Netherlands and Bangladesh and in promoting Dutch delta expertise in Bangladesh. The visits of Dutch government officials in a mission to promote their delta expertise, thus, can be identified as a form of work to problematize the delta in Bangladesh needs Dutch support.

## INSTITUTIONAL TRANSPLANTATION - 5. ACCOUNT FOR CULTURAL AND ADMINISTRATIVE DIFFERENCES AND SIMILARITIES

### **How were divergences tackled by the donor agent? To which extent were they managed?**

1 "But I think our question as NL (and not the BD question) is: how is the institutional sustainability going to work? But also the economic sustainability. That is the conclusion of our evaluation. Is that an issue? They have managed to do it in a different way. [...] The government has a completely different idea, they want to ensure that everybody in Dhaka has water. That's from an electoral perspective, an essential good they want to supply. And

the government is also subsidizing this. [...] they could've learned better from this."

2 Planning Ministry is a central point and defines how resource is allocated, that's very critical, you have many other plans by many other ministries, which are not implemented because they are not financed. That's why many other ministries have many other plans. Those aren't really implemented because they don't have direct connection with finance. And when ministry of Planning or GED prepares a plan, it goes directly into the finances. So there is a high chance of being implemented. That's how the economically politics work here. That's why the GOV demanded to prepare holistic plans, so now National Water Management Plan (NWMP) is a sector plan, and other plans are competing with this plan, not complementing, so that was the problem.

2 TR: Political context is different and political differences, but I think they did a mistake doing some of the dutch knowledge depending on a 23 years old lady for the spatial land (something...)... The dutch shouldn't take this as a tendering process, as it is important, not just a consultancy, is a national plan! A young lady makes things and we suffer

2 "HR: The technical studies were depending on them, the dutch. The whole document was revised by GED. TR: IT's funny because if you ask them, because if you ask the dutch, they say is their doc, if you ask the other, they'd say the same... but it is actually GEDs document, we took the information from both sides and mixed them. GED fine tuned this document, it took dutch document (which was weak in language, we were very unhappy with it, I don't know why)."

3 "GC: [...] we are very different, our need is very different (Compared to Dutch). They know every inch of their land, is not the case for us. It works in a different way. Maybe we adapted Dutch experience, but it is our initiative. We prepared the investment plan, so it was a version we adopted. Changing and growing to middle income country takes time."

3 Plan is there, but success must need an RGM, a Delta Commission, which will supervise the Delta Plan, and a Delta Fund must be created. For this we need a Delta Act. Duch govt. also agreed that next 4 years they will support. The main task will be to stablish the Delta Commision and the Delta Fund. It is for stablishing institutions, it takes a lot of time.

4 "JD: Now BDP2100. What do you like, what you don't like, what you think will go right and what won't, as it is now? RR: I didn't like how they handled it, I think is too complex. "

4 "JD: One question, what do you think about the donor's involvement in that sense, was it useful? Adequate? It was Dutch intensive involvement. Was it pushed as a specific kind of solution pushed there? RR: Compared to other plans I have seen, here the donors are least involved. I think they are not in line and they are not suggesting any pathway. But I think they gave many workshops though... ... I'm not sure, they tried to engage with civil society, and so, but in the end has all the good things, but the packaging should have been much better. "

14 "JD: Have you heard about BDP2100? SA: Yes, again Dutch engineering, a 100 years program they called me for some meetings. We had some discussions. After that they didn't invite anymore, so I am disconnected.

JD: What did you discuss there? SA: I had some debates: why this program? What is the main intention of this program? Why are you thinking for us? You first go to the govt, convinced the govt and then came here... so behind this activities what is your main objective? This kind of questions are really embarrassing, and that's why they didn't invite me after that.

JD: What was their reply? Who were there? SA: No reply. A teacher from Dhaka Uni-



versity, some people from the Embassy, some teacher from Delft University. But I don't know what happened. I know our prime minister is very happy with this program."

23 During their working period of July 2011 to January 2012, the team opted for a mixed methodology to perceive the level of cooperation and create interests for a delta plan, which named as Bangladesh Delta Plan 2100 by then. The team members organized stakeholder consultations, held discussions and interviewed with people from government agencies, knowledge institutions, NGOs, media, international finance institutions, whom they selected with support from the EKN-Bangladesh.

23 Some stakeholders shared (persistent) scepticism about feasibility of the proposed planning horizon of 50 to 100 years. They shared concern about a plan primarily focusing on land and water management in the delta where development agendas in Bangladesh are widely diverse which include poverty reduction, education, health, gender among others with equal importance. Some rather suggested for developing action plans for addressing climate change and transboundary river issues using the existing plans and policies as background information - in their words: 'do not start from the beginning' (Choudhury et al, 2012).

23 Drawing lessons from the Mekong Delta Plan (2013), the Arcadis team further cautioned about possible disruption in implementation programs because of lack of understanding of local stakeholders about importance or relevance of the planning program, unclear local institutional arrangements and funding constraints.

23 They (GED) emphasized on preparing the plan document by national experts while taking technical support from the Netherlands for creating a wider acceptance at comparative ease.

23 EKN-Bangladesh was careful in their approach in playing pro-active role that may draw criticism towards BDP 2100 project as donor and expat consultant driven as was the case for NWMP 2004. Rather they provided space to GED to act, and eventually agreed with an objective to create and/or maintain ownership of the GoB for the plan.

23 The consultants first named the four scenarios as productive, resilient, congestion and stagnation and later changed into four Bangla names to capture key notions of each scenario in Bangla – a strategy to create easy understanding which the consultants expected can lead to increasing acceptance. However, the naming, especially the notion in that of congestion and stagnation about a 'possible' low economic growth under a business as usual context (traditional economy) was not appreciated much: [...] naming of the scenarios became almost a highly political act because if it is sounded too bad, people will think we in the delta plan desired a bad future for Bangladesh, a consultant reminisced. In the process, the congestion and stagnation were renamed as moderate and active scenarios.

23 Experts commented on their rationales: 'the Netherlands and Vietnam are not similar to Bangladesh. Not necessarily scenarios will work in Bangladesh if it works there. They further asked: is the (developed) scenario working there?'

23 The team A consultants of scenario development came up with two new scenarios - business as usual and fast urbanization. One consultant remarked the development of two additional scenarios was unnecessary, but they did agreed to the task to create acceptance of their work.

23 Concerns were raised against an uneven ratio of eight Dutch to two Bangladeshi consultancy firms in team A, which many critics found incongruent with reiteration of

Bangladeshi Prime Minister about not relying on foreign consultants for development projects (Khalequzzaman, 2016). Apprehensions were also made about the eligibility of team A consultants on accounts of their young age, lack of extensive working experience in Bangladesh and also in the Dutch delta planning. Some remarked that the work of two Bangladeshi organizations as sub-contractors are guided and limited and their consultants are carried out most of the tasks on comparatively less remuneration. Local institutions are competent enough to take up charge to formulate plans with national experts, some critics observed.

23 Many raised question on adopting a(nother) Dutch water approach when, some argued, the success of various Dutch assisted flood prevention measures and coastal zone management has been scanty at most. They mostly shared consequences of construction of 139 polders in delta as an example to support their claim.

23 The baseline studies, scenarios and their method of development came under wide criticism too. One reviewer of a baseline study commented: the contents were superficial and lacked an in-depth literature review. There was a tendency to make short cuts. Some other reviewers who were interviewed shared a similar impression. While, GED had a different story of disappointment: We are frustrated with the comments from those who reviewed the documents. They did not go into depth and asked fundamental questions, rather they asked 'cosmetic questions'.

23 Various government officials and academics who participated the scenario workshops, whom we interviewed, questioned the necessity of the scenarios which they found 'unnecessarily vague'.

23 The criticism on considering the entire country as a delta including that of hill tracts remained persistent. Most of the critics stressed out on the feasibility of setting up visions over a planning horizon of 50 to 100 years, which they defined unpredictable in context of socioeconomic (and political) development trajectory of Bangladesh, and also in geopolitical aspects when it comes to trans-boundary water sharing

23 What worked in the Netherlands may not work in Bangladesh was a common remark of many interviewees. One interviewee elaborated (see footnote 24, p. 13): You cannot simplify it (development challenges and paradoxes in Bangladesh) to simple assumptions and simple solutions.

23 Team B found the scenarios more of some disparate assumptions about what happens if there is a change in exogenous factors like climate or population growth. They observed that the technical work of team A that they received lack coherence and the technicalities require to be translated in accordance to the reality of Bangladesh development sector which is also communicable and understood by policymakers.

23 "The idea of the proposed Delta Commission as an independent entity of the GoB, and its commissioner configured with jurisdiction in project approval and monitoring sparked dissatisfaction and opposition from the agencies and ministries that deal with cross-cutting water issue and also, from the Ministry of Planning itself under whose directorate GED is positioned. Most of the opposing agencies and ministries, notably BWDB as identified by several interviewees, felt contested that their power and respective processes of approving budgets and managing project work would be taken away by a delta commission. They deemed the position of the commissioner and its proposed authority as a political aspiration of the Member Secretary of GED. They opposed the establishment of Delta Commission and hence, a delta plan; Power brokers are active in trying to kill this project, an interviewee remarked. It was observed that the ministries and agencies including BWDB

were not openly opposing."

23 Moreover, they feel side-lined with involvement of GED and also not having enough significant leading role in the planning. One former government officials involved in the development of NWMP (2004) remarked that 'the GoN turned GED into a Frankenstein with their idea of copying Dutch Delta Commission in Bangladesh'.

23 The transferring of Dutch delta planning to Bangladesh observed to become a major political process – both in contexts of local governance system in Bangladesh and of the diplomatic relations between the Netherlands and Bangladesh. The Bangladeshi stakeholders which include academics, former and current government officials and representatives of international financing institutions still question the necessity of (transferring) a delta plan in Bangladesh, preferably within their own epistemic community of professional or personal circles because of the political nature of the planning or their own position. A majority of them remain skeptical about sustainability of the BDP 2100. They observed to be hopeful when they consider the investment plan component as an instrument to create and maintain interests and alliances between the epistemic communities, though the projects are mostly 're-invented' in the negotiation of interests

#### INSTITUTIONAL TRANSPLANTATION - 6. USE ONLY NEUTRAL OR POSITIVE SYMBOLS

**What symbols are present around the initiative that reinforces the positive image or results of it? Are there negative symbols or connotations around?**

3 "GC: A lot of their institutions came in. Deltares, Wageningen, that's good. For long term planning also, how could? I wouldn't think that way. But the method they have developed is a story, the scenario based, is different. In this case is a different way of acting [showing how to develop a strategy depending on how the future looks like]. It's called Adaptive Delta Management. We developed some pathways. When you talk with others, you also feel how your brain opens. Any idea would be very good. "

4 I think it was a good initiative, about developing a 100 year plan in a developing country. As we are moving fast, we need a longer time frame. Like China, everyone cite it as a great example for development, but from environmental point of view they could have done better. That means pointing out what we want to achieve (as BD).

14 I don't know much inside that. This program is coming from the top. In general this programs are not good involving and with ecology.

23 One solution that can support bringing in the envisaged prosperity to Bangladesh is the long term Dutch delta planning framework which can be linked to the existing plans as a strategic planning and integrated water management option, they further promoted.

23 . The team reiterated in discussions about 'sustainable socio-economic development and security of life and livelihoods in Bangladesh could remain beyond reach in absence of a delta plan' (Choudhury et. al, 2012, p. 18). They also focused on promoting how to best fit a fifty to hundred year plan in the five year planning cycle in Bangladesh.

23 The DPT portrayed a (Dutch) delta plan somewhat as a panacea that will address multi-dimensional development challenges in Bangladesh, be it a scale of local governance and transboundary. The BDP 2100 can enhance good governance through institutional arrangements and capacity building and can strengthen cooperation with neighbouring countries and international development partners.

23 The objective of scenario development in Dutch delta planning is to identify four key Scenarios which are storylines of different futures (not a forecast or prediction), driven by external factors that cannot be influenced, for example climate change (Haasnoot and

Middelkoop, 2012; Van Notten, 2005). The feasibility and robustness of proposed planning strategies are then assessed in context of the developed scenarios. Careful assessments are made to decide which strategies will be prioritized in the planning.

23 GED officials, in turn, used opportunities and platforms of various meetings, conferences and public media to respond to the critics (see an example at <https://defence.pk/pdf/threads/ban-delta-plan-2100-a-mega-plan-in-the-making-to-counter-sea-level-rise.445924/>).

23 The leader of team B observed some of the planning approach related to water modelling and technology aspects are useful. At the same time he emphasized on: But as I said Bangladesh is not as advanced as advanced as that in terms of doing that kind of planning at this stage; may be in five or ten years down the line.

# C

## ANSWERS INTERVIEWEES - TRM

The following are fragments of interviews that relate to each parameter on PDIA and ITE. The number before each answer is assigned to each interviewee. The anonymity of each interviewee is held. If further information is required, it can be given upon request.

### PDIA - 1. AIM TO SOLVE PARTICULAR PROBLEMS IN PARTICULAR LOCAL CONTEXTS, AS NOMINATED AND PRIORITIZED BY LOCAL ACTORS

#### **What problem(s) were defined and how were the problems (and if applicable, solutions) defined for this project? Who developed the definition of this problem?**

3 "JD: What is the problem with TRM, in your perspective, why hasn't it grown and gone higher? GC: According to IECO MP the polders were constructed. There is a natural process of the development of a Delta. [explains part of TRM and dynamics there] Many rivers have died there due to the deltaic process. If we keep this delta like this. But we didn't allow the river to expand. We made interventions (polders). They restricted the river to take its action."

5 "JD: Yes, but it wouldn't really help the water logging problem... SA: This is our most essential task, to remove the water logging. By improving the drainage facilities, and only re-excavation or dredging of natural channels help removing water logging."

5 "JD: TRM also helps doing that... SA: Yes, that is also helpful to remove the water logging. By TRM we can raise the bed of ground level. When the bed level of basins are raised, the low lying water- logging won't happen."

5 "JD: So that's the solution? SA: Yes, that's the solution. The results is that water condition becomes intolerable (?) condition."

5 "JD: Then it seems like a nice solution. SA: It is a natural based system if we can run it."

5 "JD: Dredging is very useful for the short term, but in the long term,, SA: Yes, Dredging is the most essential procedure, essential for this area, for this country.

JD: Don't you think that in the long term is not sustainable? SA: Yeah, I understand, for sustainability we have need of (something) after dredging. TRM is a long process to drain, but we get sufficient water from upstream area, this condition would not be faced."

7 It is not donor driven, it is a very local knowledge from people of that area. We (as CEGIS) present it in a more technical fashion, and in a more institutional way we present it to other agencies. Still in the policy level, people don't thing this is the only solution. As it still thinks that dredging is the main solution. The problem is also around the land with

vested groups. If you allow this land for the basin, you cannot use this land for 2 years, so this belongs to some of the vested groups, making business from this land, and they are convincing the policy level about this, about dredging every year, which is better, and also making the sluices. If you make a regulatory will help in the short term.

7 "JD: It seems to me that it's revolving around money, why isn't it just asked to ADB or other international organization to help with it?, for compensation. FK: No... because the conflict would be the same about WHO is the one that should receive the money."

7 "JD: What else do you think would be a solution? K: If you can manage to compensate both... "

7 FK: You have to understand you cannot replicate TRM everywhere, it can only work with Tidal Rivers, and also with chance of sediment inside the river.

8 "JD: TRM Complications... what is the solution according to you? It seems more like a legal problem around land properties. WU: The solution is very clear, first of all, TRM is a nature-based solution, you have to act with it. 1st: Engineering things. 2nd: The change of beels, maintain drainage situation. Another thing is that there should be open channels, there should be sedimentations management there. 2nd: Establish social relations with local, and allow them to have a key role. Also including all, as if in 600 ha you have 500 farmers and you convince 450, those other 50 will be a problem to you in TRM. Social motivations and ownership has to be done fast! In the new beel everything has to be done fast. TRM has to be done cyclic... rotating between beels, maybe after 50 years again. Planning gap has to be fulfilled. Before TRM poverty levels were around 75%, after that is around 40% or so, in 2002. Agricultural production increased xxx times, better ecological environment. Everything is good but 2 problems... proper test-flow out... second is lack of people's participation. "

8 "JD: How is it now? WU: It is working there, but the concept (payment) still has to be developed properly, to include managers and local people, that has to be strictly followed."

9 This is an indigenous concept used before the 60s probably, but in a micro scale. [Then he explains TRM functioning around beel Kukshia]. Beel Bhaina is made by local people, the first time. [looking now in a presentation] and this started more or less with the coastal embankment project.

9 "JD: I want to understand better the social issue. So if TRM is completely fine, and if they are having problems of water logging, why don't they continue with TRM? KH: Because of money problems. They don't want to give their land 5 years to be occupied by TRM."

10 "JD: Could you share me please your comments about TRM? MH: I'll be honest with you, in my opinion, this has failed."

10 "When we were invited (as CEGIS), was that the problem was not allowing the water to get out of the river, so we suggested TRM with the local's recommendation. TRM is select a beel, allow water to get into the beel, and then, the sediment will be going there... But things were done wrongly there. As we would be using people's land, whatever quantity of years, land owners should be compensated. BWDB, should've done that."

10 I still believe that TRM is the only solution for there... is unfortunate how things have gone in that region.

11 In 1960 a lot of polders were built to protect from saline water in the region, to produce more rice.

11 "JD: Before this disconnection (the upstream river), the polders were not necessary? SK: Yes, after the dam, the salinity of the land increased the salinity of the whole area (South

west of BD). That project helped nicely about 20 to 30 years, but sediment was a lot. In dry season it was about 30 percent. Without polders, sediments were deposited everywhere in the area, but after polders, all the sediment were only deposited in the river bed... this was killing the rivers. Then, when rain came, all the polders were flooded, as there was no way out. Each polder has a sluice gate, but the sediment of the rivers blocked those gates."

11 I joined the ISPAN, EGIS, and then I was sent to collect data about the EIA of that project. We talked a lot with local people to think, what is the solution (talking about the KJDRP project). 25% of people there were having people in their houses (in the KJDRP area). Then people had indigenous knowledge and had some idea and we took that idea on table... that is the TRM concept.

11 Now... The idea was, how to manage salinity as well as flood? That was our question there... When the area was open, without polder, there was a lot of fresh-water... and in dry season there was some salinity, but not too much, then what they did was... they in dry season the made a temporary embankment to protect from saline water... When the dry season was over, they removed that 'protection'... it was nice. In that period, of course there was sediment, but sediment was spread over the floodplain, and it helped to the fertility of the land. So then, how we solved this water logging? They say, if you put regulator here, in Sibsha... (parenthesis, there is a big Gate, Bhododoho, it was a tragedy there). There was a huge river, and people were listening sound from 2 villages, but nowadays that is almost there, because of all the sediment downstream... by hudge mud, so no water can pass. Now people actually said, if you put a gate like that one, there will be a huge water logging... So please don't do that (in KJDRP area), let the river connectivity...

11 There is another system, Kopotoko system, which is Phakimara beel now. Working a little bit by BWDB, but initially (and now) they are very eager with TRM.

11 "JD: What do people do in that area with Water Logging now? SK: Now they are living with this situation, now they have integrated plans with that. After rainy season, they have crops, in the deep area they have fish, and when is rainy season, they have all fish.

JD: There is a problem and not then... SK: They managed to find a solution, yes...

JD: Then they are not pushing TRM, that's why... SK: Mr. Mahir Bishash introduced this things in the whole area... they put a dike in their own land... they put LLP (Low - pump)... And they put crops in this water and use the pumps...

JD: Are they fine with this, then they not need TRM now... SK: No, if one TRM is not continuing, then the problem comes!... If a TRM is not continuing, then there is a big problem... but if TRM will happen, the whole system will be working... and all of that. So TRM (at last 1 beel) is necessary. "

11 "JD: They are not doing TRM now, then they don't need it. SK: Oh, it takes a while, but in one or 2 years the bed will be raised and the inundation problems will come.

JD: So they are benefiting from the TRM from before... SK: Yes. Also the beel Dhakatia, in there, they tried to do TRM, but there is a huge river near that beel and that one is going fine."

11 "JD: So structural solutions seem to work with low sedimentation. SK: Yes, but also because there is constant upflow coming from the fresh river."

12 The main problem here is the local conflict of ownership. People aren't getting proper compensation, not even now... they get discrimination when it comes to compensation. The muscle men are pushing and not willing to give their land, as they are not being compensated properly. If we're compensated properly, we can. There is an NGO working on

that now... Uttaran. They're helping people in getting compensated. They're having conflicts with local engineers from BWDB, because of unsuccessful implementation of TRM.

12 Beel Bhaina started with someone opening it, no one planned it.

14 TRM is the current only solution now. We need to think differently, other technologies and so. We need to consider the community people for their compensation. The compensation rate should be change and the procedure is too lengthy. [Example of an owner having many children and heritage]. That's why people disagree on giving their land. Other are in Shrimp culture and don't want TRM. They use propaganda and wrong info against TRM.

14 We have to consider now not only water, but water and silt management. Because our water brings a lot of silt. This is another problem to calculate how many years are needed to fill this main land. There is mainly rainy season, but also other things change regarding silt.

14 [...] I'd like to say that is proven, that TRM is in this moment the only solution.

14 There is also another problem, shrimp cultivators provide a lot of information that has created social problem. If you provide land for TRM, they say that you don't get your land back. Also that if you give you land, you won't get the money. That's because there is a lot of hassle.

14 SA: TRM would be a good improvement for our ecology and ecosystem and livelihood also. Before that we need the holistic approach is the rivers and related rivers. We need reexcavation in main rivers? If we don't manage this river properly, this is not possible to success TRM.

15 "Why do we need TRM in first reason? To increase drainage capacity. What is causing the blockage of that drainage? The people at the top think that it is lack of upland flow... also about that there is much sediment. Also, because people on the top think that due to lack of this flow the tidal forces push sediment deeper and deeper. And they loose their velocity... In the local level, they also believe sedimentation is a problem, the people on the field, but they think sedimentation is because of the polders built in the 60s. That severe sedimentation comes from that."

15 That's not because of Dams or so, it's because historically that's how this region is... salinity isn't new for this region... you can see books here. Stories from 1700 even. So, when constructed the polders, they treated the whole area as similar, and our system is very dynamic. That was the problem of top-down approach.

15 So the perceptions are different, for local people the fault is the polders, for top govt people is the upland flows.

15 "JD: If they are adjusting, then what is the problem? JS: Only rich people are getting the benefits of the Shrimp farming. In 10 acres of land, 50 or 60 people own it, but 1 person gets the benefit. There are some mafias around it. Also there is a cultural thing that if you have farm, you MUST grow rice... it's a cultural thing. They'll look for a way to grow rice."

16 Dhakatia solved the problem without engineering help, just with indigenous knowledge. When it came to the authorities, the decisions in a top-down way wouldn't work, in an active delta, where conditions are different. Most of the policy in this region came as an outcome of different projects of international communities or development partners.

16 They came with different solutions. To solve this problem we need both technology AND local knowledge. How to survive in this area... that's local knowledge.

18 The main problem is the compensation mechanism... the ongoing mechanism is



very complex. Is not possible to receive money properly due to complexity. This is the main problem.

19 "Dredging is not a suitable thing here, is redeposited again by sediments in 2 or 3 months.

JD: Who does this dredging? SS: BWDB, but is not very helpful, and a lot of money is invested in this."

19 "Also, TRM is not a sustainable solution.

JD: No? Why? SS: It is a solution for 5 or 10 years... but again they will be water-logged. But if you compare the whole scenario, the land use pattern, and characteristics, there is no alternative to TRM. There are other alternatives, but TRM is the best of them. People are not convinced about this method, because their livelihood is compromised. It has to be taught how compensation is easier."

19 "JD: How do people manage the problem now, I heard they are managing it... SS: Due to water logging conditions, they do fishing, shrimp farming. The beel area is converted into several small pockets for Shrimp farming. But they go for it for livelihood issues.

But if you just do fishing all the time, the land will lose its fertility. And they would have to suffer a lot due to it."

20 "So the construction of the polders is a part of the causes (of salinity there and water logging), the other one is the development of roads. There is a third one: Rivers here are very dynamic, sometimes those moves create lakes. These are places of fresh water reservoirs. But this delta is moving towards the sea. So if fresh water is a scarce resource, these lakes could supplement fresh water demand here. That is another thing that could help environmentally."

20 People is suggesting that the problem could be overcome, if we go to something that invites sediments in polder areas, so land could be a bit higher. The main problem in south west Bangladesh is land development, land has not been developed. That is a slow and long process, it is natural. We have obstructed that with our interventions (polders and so). That can be minimize if we manage to take the sediment inside. TRM can be one of many options, by which land could be developed.

## PDIA - 2. CREATION OF AN "AUTHORIZING ENVIRONMENT" FOR DECISION-MAKING THAT ENCOURAGES EXPERIMENTATION AND "POSITIVE DEVIANCE"

**Was there an authorizing environment to develop the initiative? From whom and how was this support received to implement and make the changes to the proposed plan/project?**

4 "JD: How was people management there? RR: That was the original plan, so it was kind of 'you have to agree'. "Forced cooperation". The original plan was beel Khedaria, beel Khukshia and the beel Khapalia. Khukshia operated for 4 or 5 years, but now they closed. "

4 This problem could have been solved if local people had taken initiative to solve it, instead of depending on the govt. I remember local people said: 'If we take contribution from farmers who want it, that would be enough to compensate this people'.

4 BWDB never cultivated this local knowledge, they were a technocratic organization, but now I can see that even in other places they actively try to acquire this community based knowledge.

4 In a way, it was a mistake to create parallel organizations, instead of going union councils, union parishads. But again in BD is difficult and challenging to go through UP. Because they are elected, so they challenge the implementing agency

4 I repeat, that they (BWDB) have to involve WITH local people, they have been doing everything by themselves. But engage with local people, and try to resolve this problem. One local party people cannot solve this.

5 "JD: One last question regarding TRM, how is engagement with people? More than the procedure itself. SA: In TRM areas no households exist. No houses, is self beel area.

JD: But before that, you have to push people away. SA: There are no houses there, no households. When any portion of land becomes dry or water logged free, then people can think to live there, as there is a higher level. Then it is ready for housing use."

7 But also, another problem is the people living here, as they don't want to give the land, as the compensation is not received by them. The solution is very innovative (as TRM technical concept), is cheap and natural solution. There is no kind of strong interventions, like regulators. But BWDB started doing this basins in the polder area, the problem arose: 'who will give this land?'. 'How will the compensation be provided?' The compensation is to the land owner, but the benefit of the land is in other people's hands. The government doesn't know who should take the compensation 'you' or 'me'. Also some migrants from other families from India. . . . It is a land complex situation. Is not the technical and mainly political, not national political but local political.

7 "JD: Everyone pushes to BWDB the responsibility. A big part of responsibility seems to rely on them. What should they do different? FK: In BWDB they have some limitation, they are a govt organization, they cannot do everything. If they want to do TRM, you have to give the compensation, but when the real land owner is looked for, it gets confused and is really difficult."

10 "JD: You think they didn't get confidence of people (BWDB)? MH: I was leading the team when this happened. When this failed I stopped going to the region, I told them: . . . you're unfortunate group of people in an unfortunate environment (politically?) . . . and that's still going on there.

JD: From this mishandling of people, you think relies on BWDB? MH: Yes"

11 "JD: Who was responsibly of this 'experiment'? SK: No one, it was their initiative. . . but for 2 or 3 years it happened, that public institutions were there to stop the cut point. . . it was BWDB, but the pressure to do it came from the local people."

11 But now Bangladesh govt and institutions mentality is difficult, as TRM doesn't move that much money, people (from inst) are not eager to help.

11 This is the story actually. People is there, and they have a good solution. . . If you ask them, they have a clear idea of what should be done. . . they say, please don't give it through district commissioner office. The district people are really crafted, if they receive 100 taka, they give 25, people are really suffering from it.

11 "JD: Who's pushing TRM now? SK: No one specially, people there but also us used to be. . . . But it should be owned by BWDB. There is some people there that knows a lot, Mahir Bishash. . . a 'local hydrologist'."

12 "RA: Ministers, DG of BWDB. They are not in favor of TRM because it takes some much time to implement (5 to 6 years), and if we go for engineering solutions, we have some money generation. . . that think the higher authorities. TRM is good for the environment but they are not on favor of it because of this (money and time). Local people is in favor of TRM. . ."

12 Also, higher authorities of BWDB aren't in favor of TRM, because it takes so long. . . Dredging is better option for them. They are not able to make the higher authorities under-

stand that.

14 "JD: How should it be solved in practical terms? SA: We need to renew the BWDB. We need water engineers that considers ecology and people. Are you engineer only for earning money? This is the question. Also as a doctor? AS Water Engineer, you should consider Water Ecology at first. Water is resource or ecology? This is a big debate. Their academic background is the problem, highly engineer make roads and bridges. . . "

15 "JD: Who's in charge of defining who receives compensation and who not? JS: I think is BWDB, they don't need LA for that. . . this guidelines show that it can be done not only through LA, but also through NGOs and also even BWDB.

JD: So BWDB has the power to change who gives the money? JS: Yes, so it doesn't necessarily has to be through LA. . . But BWDB is the most blocked organization of Bangladesh. . . they have no connection with local people. . . "

15 "JS: Whose fault is that compensation is not arriving on time?

JD: BWDB? JS: No, is LA, they are the ones who give the money later and make it complex. But from BWDB all money has been delivered to LA in 2015. . . and in July 2016 a second amount was given. . . for LA is the same thing to them as any other land problem in BD. . .

JD: So BWDB can change it. . . JS: Yes.

JD: Why don't they do it? JS: Because the only one who can claim land from people is LA. . .

JD: So BWDB can and can't at the same time. . . JS: Yes. . . they can and can't. Policies in Bangladesh are conflicting. LA is the most powerful department of BD. They can claim anything that is not clear."

15 " JD: It's like a game of powers. . . JS: That's why BWDB cannot move. . . but also they are full of civil engineers, not even hydrologists. They only think in terms of dams dams dams, embankments, embankments, embankments. . . The more construction materials, the more money you can handle."

15 "To receive compensation you need a lot of documents: Fill the 1926 record, 19. . . record, 19. . . survey. . . All of three different periods of different surveys from the british period, the peakistany period and Bangladesh period.

JD: Why that way? Too complex. . . JS: That's how it is now. . . it is how it is and don't ask me why. . . In previous TRM was even less people, beel SSS had 21 The documents travel 12 different tables, have to get an account. . . and farmers have difficulties with this. . . Some people will never get this compensation. . . because some land rights are too complex, and once you give them money, it will become a public document to support land ownership. The situation is very tricky. . . so LA is very cautious to whom to give the compensation."

15 "JD: But BWDB wants to change this? JS: No, not at all.

JD: Neither LA? JS: LA is a division. . . they don't really care"

15 "JD: So it's a matter of time? JS: Yes, either with a drastic political person in one night, or with some time to adjust to these changes. And also what the political govt. wants. Rice is equity, Shrimp is profitable, less people but more money. . . it depends on what the political will is. That problem can be solved by strong political willingness. This is where advocacy comes in. There is no point in arguing with BWDB. IT's with the political gov., they create the political conditions."

16 "JD: It started in 90s, wasn't there any water authority then? R: No, this was the most unpopular department in this region (BWDB). Because all dikes or embankments in this

area, is in hands of BWDB. People opened Dhakatia and in 4 or 5 years water started coming again and they started dredging this land. "

17 Political conflict affects the implementation of TRM. It is taken as a political game of favors and influences. Mahir said: Remove political conflicts among us. People know they need TRM but they use it as a political strategy.

17 He says that local administration is involved in this, but it is not enough. Central government should be involved in the project and create laws especially for this project. We have the law established in 1971, but the power is low. Govt should establish a new law. That's old. Govt should create new rules for TRM by itself. . .

18 "JD: Is it a problem from BWDB or LA? HF: The problem is the law. There was a law in 1992. Acquisition law. This law is the problem. It is implemented by the DC (District commissioner). There are many systems. If you want to receive money you have to submit 13 or 14 documents. Is impossible. For example in Beel Khuksia. . . 2006 2013, seven years. Only 21 percent people received money. In 7 years and only money of 2 years. For the poor people is difficult to receive money."

18 HAF: If compensation, engineering and local people's participation is not solved, TRM won't work.

18 "JD: Ok, what is the solution in practical terms? HAF: 3 recommendations: 1. Compensation has to be settled. 2. Local participation and 3. Multi-stakeholder coordination, between agencies in the govt."

18 If the government policies are followed, around 90% would be solved. There are a lot of govt policies guidelines, but they are not using it (BWDB).

18 HAF: The problem is in a mental set up.

18 "JD: Who should do this?"

HAF: Other instances of the water ministry. WARPO can be involved, but BWDB should only implement the very engineering ones. JD: So the head should be in a holistic institution? HAF: Yes. To seize the power of BWDB. To reduce it."

19 "It's very difficult to collect papers for ownership. . . the District Level Office demand like 8 or 9 types of papers. JD: I heard that up to half of the money. SS: Sometimes they have to bribe. Is hard for Muslims here, as, for example, if you have 7 children, is difficult to prove the ownership for all seven of them."

19 They need easy compensation process, but the government's one is very complex. Govt only provides compensation only to land ownership, but what about those who are not those (open shared, etc.)?

19 "JD: Which are the biggest problems according to you? SS: Is not only in the Dhaka level. . . (National level). All have to do here, from national to very local. As the govt is not paying properly, also local people is against TRM. Also some businesses already running there, who see TRM as a threat. It is very complex, if you convince me, for instance, another one won't. . . you have to convince everyone and in all levels to continue this process. . . it's hard."

19 The authorities don't want this region to be problem-free, because otherwise their income would be less.

22 "JD: So your perception is that is out of hands of BWDB? A: Is a total process. BWDB is a single player. In football there are 11 players, we were one player, we need to align. Is a combined effort."

22 "JD: Who are these other players? A: The main player is BWDB, the implementing

agency in favor of the GoB. The main stakeholders are owners of the land and DC as they pay. All these things have been done by BWDB and only payment goes through DC. And they can only pay if papers are right."

22 "JD: It should be managed by BWDB somehow. A: BWDB cannot do it.

JD: But as head of the process... A: BWDB is one part, is the mainly implementing agency, so is a total effort of the government missionaries. BWDB people and elites there, for instance. All should come forward, if I blame you and you blame me, then it will not be solved. There is only a blame game. "

### PDIA - 3. ACTIVE, ONGOING, AND EXPERIENTIAL (AND EXPERIMENTAL) LEARNING AND THE ITERATIVE FEEDBACK OF LESSONS INTO NEW SOLUTIONS

#### **Were there learning processes involved, how were they? Where they feedback lessons to enhance capacity?**

4 So this is a situation in which people were not ready to cooperate as they initially agreed. So, there is intermittent problems, and now beel Khapalia has a bigger problem, because that land are with farmers who are more influential, creating many problems.

4 People said that for the benefit of the entire area, they were willing to sacrifice 3-4 years. But then, many of us discussed that even some could compensate. Then they said that compensation was nothing compared to the benefits... that [some amount] was more than enough. Local govt committed that if it was needed, they would arrange that, but after the problem was solved, the local people didn't keep their end of the bargain. They behaved differently I shall say. They were not serious about this issues.

4 BWDB never cultivated this local knowledge, they were a technocratic organization, but now I can see that even in other places they actively try to acquire this community based knowledge.

7 "JD: Have they done some 'small experiments' around this? More to see the social complexity. FK: We have done 5 basins (beels in basin in Bangla). But a lot of local conflict was happening in that time. Land litigation and compensation. This land by registration belongs to me. When the government wants to give the compensation, the real ownership is difficult, and it creates confusion to other people, who protest against TRM... as it is not clear."

9 "JD: Ok tell me please Beel bhaina, opened in 1997 and closed in 2000? KKH: Because they didn't have capacity to collect more sediment. JD: So it was closed 'ok', I mean, without problems. KH: Yes. JD: They managed to work there fine, without conflict... KH: There was a long-lasting water logging problem there. So they had to do it, there was no option (it was more like a desperate measure). They did it by themselves. Beel Kadharia."

9 "Before closing a beel, another one has to be opened... and in that (?) area, it wasn't ready yet.

JD: Kuhkshia, it says it is closed due to inefficient operation, why is that? KH: Because it wasn't properly prepared...

JD: Kapalia... KH: A lot of conflict there... They had to stop it."

10 "JD: Why didn't they do that properly? MH: BWDB was expecting to define the best location for the regulator, however they said, this is not going to work... ultimately we will have to go back to building the regulator. We identified 10 different beels locations. We made a model and we could see that each beel would take 3 to 5 years. So before starting TRM in a beel, you should prepare it, and not finish one and wait for the next one...

The damage is big if it's not done in the proper way. TRM require intense monitoring, to generate data, but it wasn't followed either. Finally, people got agitated."

11 Then, the second TRM was in beel Khedaria, and in that case they prepared a peripheral embankment, to protect from salinity.. also 2 or 3 years. The result of Bhaina is really nice, if you go there, there are like 2 or 3 crop areas now. The results there were really nice.

11 "In Khedaria beel it started, but poor sedimentation happened in this beel... There is a lot of history... there was Kukshia beel. It was 3 or 4 years... In the meantime there was another issue, people wanted compensation on their lands."

11 "JD: Why did people want it now and not before? They did some experiments before and people didn't complain about it really, and now they wanted compensation, what happened? SK: The first one was public expectation, the second one wanted compensation, but not seriously... the thing was a necessity at the beginning. After that, they want compensation... The people after 2 or 3 years they want compensation. This was around 2000 or 2001 maybe (Khedaria)... in the meantime, people are thinking: why should I suffer 2 or 3 years while everybody is taking advantage of me giving my land? So they said: give us compensation... But Water Board couldn't manage that compensation. So they stopped compensation... After 2 years, rivers were further silted... then suffering started again. So they prepared for Khukshia beel (2002 – 2003). At that moment we were studying that compensation plan, we were asked by Water Board for that beel."

11 "JD: Oh you had a plan... how did it go? SK: So, the compensation is really tough, it depends on land ownership, which is not clear, because in paper is one thing, but if it is transferred to my name, there is a compensation that is not clearly... So some people receive compensation according to the EGIS plan, but not everyone... In the report we had problems, as there were some rules and regulations involved, which was a new thing... People got, but not properly or adequately the compensation. After BDWB had to prepare another for TRM which is called beel Khopalia, which was 100% failed. There was another issue, as people had to agree to give their land to next TRM. The businesses there are very strong, muscle man are very strong. Hey disagreed to do TRM in Khopalia, and even some incidents, as some people burned 2 or 3 cars in that area... "

11 Unfortunately, for beel Khukshia, BWDB couldn't prepare the local problems, yet it started anyway... this TRM was again suffered due to incomplete tenure of TRM plan... When we go to the third beel, Khopalia, people blasted... because miscommunication, mismanagement, if you go to TRM you have to prepare this beel with necessary compensation and other things integrated.

12 The only one complete is beel Bhaina.

12 "The problem now with beel Pakhimara, is that if you don't make a proper planning, it won't work adequately. Sediment distribution has to be uniform, and it is not now... They are going one sided... is under TRM but is not following the proper TRM system. Phakimara is not properly planned. Also Phakimara has another problem. People are so interested that fishermen, viallgers, farmers, all of them like TRM... but what we need is a proper and smart compensation. If this is done, we can give our land to TRM."

15 "JD: Where are you pushing this? JS: To govt. but you have to show the complexity of this now... you have to show them this... (problem)"

17 First he (Mahir) says, not proper land management. Authority take land from poor people but they don't give compensation. Siltation is happening and increased.

17 Point number 2, do not lease. When the government takes the lease from the poor people, the people has to show docs to prove ownership of this land. But the problem when they are going to show it, they have problems with it. He says, you should give the land compensation without so many complexities. For example, if there is a brother living in a land of another brother, then that should be possible, but not a detailed and complex process to specifically point and allow ownership. For example family relatedness would help.

17 He wrote another point. Alternative livelihood should be provided to cultivate crops and create their own livelihood. Those who are moving.

18 "JD: Which other problems are there in your perspective, the most critical ones. HAF: There is no silt management system in Pakimara beel. They had no arrangement for that. Also river erosion is another problem there. "

18 "JD: Regarding the environmental features, do you think there are difficulties that TRM bring? HAF: You know CEGIS? They made EMP (Environment Management Plan) for the implementations, but BWDB is not doing it! There is no allocation. No project should be done without EMP, but there was no budget to do EMP plan for beel Pakimara. It is a condition for any TRM basin. Minimum 10% land should be (kept?) for land (agriculture?). It is possible to grow some agricultural species there. Also soil management should be done. It is not taken now. When excavating."

18 It is required the participation of the people from the beginning and forever, it will be sustainable, otherwise it cannot be sustainable.

19 After completing TRM in an area, you MUST ensure the next area, but what happens now is that the next ones are not convinced and then everything is stopped.

20 Solutions from technical aspects, technically whatever TRM has been done is not technically sound. The breaching points are not anywhere at the right location, as has been presumed by the local people. They say that the right location should be somewhere else and not where it is now (Pakhimara).

#### PDIA - 4. ENGAGING BROAD SETS OF AGENTS TO ENSURE THAT REFORMS ARE VIABLE, LEGITIMATE, AND RELEVANT - THAT IS, ARE POLITICALLY SUPPORTABLE AND PRACTICALLY IMPLEMENTABLE

##### **Which actors/agents were involved to legitimate the actions proposed that could enhance trust of the initiative?**

3 "JD: TRM has some problems with implementation. You said international intervention has helped as a catalyzer for BDP, do you think it would be helpful in the case of TRM? GC: Definitely. Because you get some strategy direction. It should be basin-wise. "

3 "CEGIS started growing that, CEGIS did it, although some people don't recognize it. Is not an engineering solution. Is social, but it is very difficult. There are many difficulties of land. Many Hindus left the country. Is complex."

4 "JD: What's the biggest difficulty from TRM now. RR: I shall say that it is on cooperation of the local people or their representatives. The system is such that you need extensive cooperation and participation of the local people. "

4 (...) They accepted it (TRM) at the beginning. Since the first beel 'Kehdaria', which worked very well and the area was drainage congestion free. But gradually people forgot about their commitment, because the problem was solved, once it was solved, we behaved differently. During difficulty everyone was cooperative.

4 I think that if people were compensated, the problem wouldn't have arisen. The mechanism is now in place, but people don't have right to the land, don't have papers, and people can't give them compensation. It is actually creating another problem. This kind of problems are surfacing.

4 If they had arranged compensation for beel Khedaria, it would have ran for another 5 or 6 years. And beel Khedaria forced stop it. They were angry. They 'took revenge'.

4 The problem was so severe that top level officials were aware about it. And local people complained so much about BWDB, that the officials could see the severity of the problem, so they asked BWDB to adopt this local solution. If the government was not involved, BWDB wouldn't have agreed.

5 "JD: Pakimara is running now. But I've heard that is hard to run it, not from the technical side, but from the social side, procedurally. SA: [Something in Bangla] This is a social problem. The land of people. Give them compensation for operation of TRM. And the compensation depends on TRM operation. If we require 2 years, we give them compensation for crops for 2 years. This is how we operate TRM. If not we can give the compensation. People want to get some incentive. "

5 "JD: But still with people that work there and are owners of the land, you still have to manage this people, even if is small amount of people. SA: Few people live there, but not many. When many people live there, it is not good for cultivation. Also in Jessore district there is water logging in housing areas. This is because siltation and low capacity of the channels."

7 "JD: Which other solutions have been explored? It seems more like a legal problem. . . FK: Now (TRM) is completely stopped, because of this local problems. The land ownership is the big problem. The propaganda now is: They are taking our land, they aren't giving any payment to us. . . and ultimately the land may be acquired by the govt or for some other purposes. The surrounding people are not familiar with rules and regulations. A small group will push against BWDB and govt in general, the first as the implementing agency. The locals don't know some of the rules, the litigation. . . There are some vested groups that convince people afraid of losing land against BWDB. "

7 I feel people are not fully confident about the TRM, that's my impression. I can see that there is still gap.

9 "JD: If it is money issue, why don't ask for it to ADB or World Bank, and then give it back in 10 or 15 years? KH: Most probably WB and ADB don't cover this type of expenditure, I think. . . if they provide them that would be a success."

10 "JD: The last attempt was in 2007 / 2008. In Khapalia. People said no. . . so, BWDB was in charge, but not in the right way with people. MH: In fact people lost their confidence in the organization and that compensation wouldn't happen. One of the problems is that money goes to the Deputy Commission of the District (DC). They ask for your documents for the land. . . there are many farmers that don't have the right docs. If you don't have docs you can't do anything."

11 "In that period water board didn't take any decision to TRM. Then BWDB said: 'OK, we will come. . .', after the problem was solved. . . this was Bhaina beel (the first one they cut by themselves). It was an open beel, water came and left, it was conducted 3 or 4 years, and then the whole area was free. . . our suggestion was, please manage this TRM."

11 if compensation is fine, TRM would be prepared properly. . . You need compensation things involved. . . it takes time to involve 5000 households. It has to be properly planned.



11 People's participation is very very important for it to work... people has to participate in your activities. That is the challenge for BWDB, as they are only engineers, high level people... they think, why would an engineer talk with the fishermen, or farmer? That's the mentality of our people here unfortunately.

12 RA: Actually people like TRM, but they are not willing to help if they are not being compensated. The main problem is that they aren't being compensated properly. They say: "WE know future generations would enjoy land here with TRM, but 3 or 4 years, how will we survive??" They are not convinced properly, that's why they don't want to give their land.

12 "JD: It seems that they reached a ceiling, they cannot grow it. If differences between locals are solved, then would it be solved? RA: Don't think so, you need to get credibility of people. If you want to implement TRM, what would be required is not only that (in the local level), but also in the higher level. If all agree on the logical process to implement TRM. Beels are not similar in size and shape, so scientific research has to be done better AND included in a plan... then TRM will be successfully implemented. The problem now is the politics."

14 After a long struggle, the BWDB took TRM. TRM is different in hands of BWDB. The main difference is that people know where will be the cutting point. People has some previous experience. But BWDB said, no, it's not possible, it has to be in this area. We support the people's concept.

14 If we cover the full area, it will be harmful for local people. Committed people say that is better to do smaller area and then it would work differently. But BWDB hasn't considered debate on people's demand.

14 They have a lot of stakeholders, they have a lot of conflict of interests. You have to check who is involved positively or negatively. Technically is proved that local people is very right and if you have seen beel Dhakatia area, beel Khuksia, TRM is successful

14 This area is vulnerable for Climate Change. This is the problem. We need to consider the people's demands, who will be suffering TRM. Also the technical aspects of TRM, the ones formulated the people's proposal, and convince the community people. You will give your land after some years. You will get the money... but for this we need commitment from different political sides. It will be easier to continue with TRM.

15 Uttaran published the KJDRP in Bangla and shared info to all local people. They are the masters of the environment. They know sustainability more than any other Climate Change Expert.

15 JS: People said, if you put more gates, it will worsen the situation... at the beginning it was only Uttaran, and later CEGIS came in. The TRM is a new name from CEGIS, but it was called 'the people's initiative'. After that, they said yes... the government... to implement TRM.

15 "This is an untold story of TRM. People talk about it, and then say, it is a long term solution, or hard to achieve. The only thing is that in 4 or 5 years some land is unusable... but then just lease that money and pay them back. In 2011 govt. 262 crore BDT gave money to excavate 90 km of river, most of the money was for the excavation, for TRM was about 40 to 50 crore BDT only... JD: So is about 1/6th... of the money. JS: This money was for compensation of 1 year only..."

15 "We're helping the govt. to give compensation..."

JD: Helping BWDB? JS: No, BWDB can't, is the District Administration who gives money.

So LA gives compensation received by BWDB, but LA (Land Authority) checks that the docs are right. And LA works here depending on the district commission, for a single district. DC signs, but LA gives the money."

15 "I was talking to BWDB last July. Just like you, doing research, he said: "BWDB is the most connected organization of BD". That's his perspective... I'm not saying is wrong, but if he feels that's the best, then there are some gaps to fill there. There is a gap there. People at the ground level, are much more oriented... IDK why, when they sit on top, they perspective changes! No one in the central govt. rejects TRM, everyone is in favor of it. "

16 "JD: Ok, all this happened... but TRM seems that is the best option now, you think so? R: To solve this problem we need to take the opportunity, now to solve this problem, people of the area need to accept it. We need to change our thinking, how can we adapt to this? They can start for fishing some months, and then they can use for agriculture. They have started this, but they need institutional support to make it sustainable (someone should have control of seeds and so)."

17 Another point is the post-TRM. There is no post-activities of TRM, as there is no money there people just forget it. When there is money for the project, people appear, after that they don't.

17 Also, local participation is key. We should run the project in holistic approach. Multi-stakeholders should be involved. Fishermen, local representatives, locally elected people, everyone should be involved. If you take only certain sectors, it doesn't work properly.

17 He says that many organizations work around, but in fact few are conscious about this, only for their interests, not for the interest of the people. He says that 'your aim should be fix to people, to improve livelihood, and not just we did this or that'.

18 "JD: We went to beel Pakimara, it is working now... what has been done there? HAF: Is because Uttaran has been involved there, they have provided money to poor sections. Mutation (? Some legal owner document) is needed. Uttaran is helping with that to the poor people. Another cause is Uttaran is preparing the documents. Sag: Uttaran gives money to people to the mutation, and also help them to prepare the documents and negotiations with DC and so."

18 "JD: So now it's working because Uttaran is working hard, but if they weren't there pushing, it wouldn't necessarily work like that. HAF: yes."

18 HAF: If compensation, engineering and local people's participation is not solved, TRM won't work.

18 "JD: Which is the biggest of this? HAF: Compensation, then people's participation. Without people's participation, you can't solve the TRMP, local people know very well what to do, they have more skills than BWDB, this is one issue. Number 3, maintenance: According to the law people will maintain it. But if people is not involved... how will infrastructure be maintained?"

18 Uttaran is working there now on their own, by their own initiative. Uttaran is not engaged by BWDB, neither by BWDB.

19 "JD: Tell me about responsibilities. Who is in charge, just BWDB? Are they the only responsible of everything, dredging and giving money? SS: Is a corruption system. They want dredging, if you have 6 crore budget, they hardly spend 3 and the other 3 will be taken by them. Bureaucracy. Money is a big factor here. And the people have no trust on BWDB. We have had FGD (focal group discussions), and they have no trust in BWDB, the management is really bad. BWDB can make a canal and put the water in the farthest area, but they

haven't!"

19 "JD: If compensation is solved, a big part of the problem is solved, right? SS: Yes, but you have to compensate all level of people... not only the land owners... you can also create alternatives for livelihood."

19 "JD: So everyone is responsible but no one is responsible. SS: Yes... People is demanding real and easy compensation. IF you make a system of compensation, only 40% is getting compensated, the rest is not. They are not benefiting local people."

20 "Shrimp is also produced now in slower rates than before. Some people are trying shrimp, but not the yield of before. Because Shrimp, there was a land use pattern, and it changes the attitude of the society. There have been some disturbances there. Agriculture is more labor consuming, but shrimp is not. People are there without work, as they are not involved. It creates disturbance in the society. One more thing, outside people who are politically strong have entered those places to cultivate shrimp. And people don't want to change this. This conflict has been there. People killed."

20 In soft management of TRM land issue is a BIG issue. The people who work this land don't get benefits from this TRM.

20 TRM Scientifically is ok, but management-wise is difficult. To make everyone happy is really difficult.

20 One has to go analyze it with consultation of local people, how TRM can be successful, everybody wants TRM. WE have to develop a (local) ownership of the process there.

20 . So before running TRM, one has to consult the local, where and what to do. Maybe they are wrong, but that process must be done. 20 This is a management solution. TRM has a problem with local community. Whatever the process should go through them. After doing that consultation, then TRM should go ahead, not before.

20 "JD: So TRM was pushed? DD: Yes, the executers of TRM, they don't have good communication with people, BWDB."

20 "JD: In that sense, if you relate this to Blue Gold, then they have more connection that TRM, right?

DD: Yes, although BG is not in the ecology, they are a bit better. Whatever they are doing, as far as I know, they are doing it with the consent of the people."

20 "DD: Yes, actually TRM was done by local people, not policy makers or engineers. They had idea of how to manage the water. But when engineers come in to this problem, they see the water, not the sediments. When they go to take and 'consult' local people, they pick up the people that is in favor with them. Not the actual -mass- people. This people, and contractors, become part of the engineers. So in practice they are not taking care of the local people."

20 They should go to the location, fields, having meetings with the people again and again. What would be the problems if going for TRM. They should go to those tricky points and minimize the risk. And then, they have to talk and go to them. It should be egoistic.

22 "JD: Many people say BWDB should have been more proactive (regarding TRM). They should be more inclusive (BWDB). Compensation should be different. A: That's easy to say (laughs). That's the crack, the payment, we receive that from the government but we cannot distribute the amount easily. This is a system from the government."

22 Is a total cycle. Water board plays 50% for example, other 30% (DC let's say),,,, and so. It will only work if all work. This is the government missionary. It is headed by deputy commission (DC).

22 "JD: Ok, that is regarding the papers. But also they say that involvement should be better from BWDB in the field. They should 'buy in a nice way'. It feels like they are disconnected. A: Yes, definitely. This CEGIS was trying to help this and some consultants as well, but it has to be implement, to solve this problem."

#### INSTITUTIONAL TRANSPLANTATION - 1. STRENGTHEN THE POSITION OF INTERNATIONAL PROPONENTS OF CHANGE

##### **Which and how were international actors engaged to participate in the initiative?**

1 PdV: BWDB again proposed regulators. But locals are against it and against BWDB's sluices. And then 2002-2005 officially TRM started. The last part I don't remember, as we're not very involved on it. Is more ADB and Dutch with intellectual involvement to develop of Tidal Management System. That should be the role of the Dutch, and not so much in doing at all. This country is growing and growing, getting their resources, so we can give the ideas.

3 "JD: TRM has some problems with implementation. You said international intervention has helped as a catalyzer for BDP, do you think it would be helpful in the case of TRM?

GC: Definitely. Because you get some strategy direction. It should be basin-wise. "

3 "JD: What is the problem with TRM, in your perspective, why hasn't it grown and gone higher? GC: According to IECO MP the polders were constructed. There is a natural process of the development of a Delta. [explains part of TRM and dynamics there] Many rivers have died there due to the deltaic process. If we keep this delta like this. But we didn't allow the river to expand. We made interventions (polders). They restricted the river to take its action."

4 "JD: Why do you say Donors? RR: Because donors agencies and govt realized the potential of local solutions with TRM. Because we can assume they are more Enlightened (Ministry people), they are more enlightened because they are not implementing agencies, and donor agencies ADB, (other not clear from audio), are more open to local solutions. So they saw the potential and somehow forced BWDB to take this approach. That's why this was not BWDB baby, they say they committed and they gave lands, but that didn't happen."

4 Donors were pretty much involved in TRM (Why?: JD) ADB was pretty much involved in the planning exercise (?)

6 "JD: What happened with KJDRP project? It was ADB funded, but then changed more to TRM approach. Z: That actually had a problem with drainage congestion, which was solved. The project had some difficulties, in the middle of the project TRM was developed. [He explains the concept]. It is about water coming in, with sediment, remains in the beel and leaves water. KJDRP was not adopted, they did some changes there, but is unfortunate that they are not rotating TRM. They way it should be, it is still an issue. As we are not funding anymore, is a govt decision in the end."

8 "JD: What about international participation in TRM, it started with ADB long time ago, when it started with the KJDRP rehabilitation project. WU: Earlier the dependency on foreign investment was very high, and the capacities were scarce here in BD. Now is different, around 70 to 80 percent of the project requirements are done by locals (?). This practices can be moved to other parts of the world. There must a a constant support, either from the local government or from international organizations."

8 "JD: Is the Netherlands connected to TRM somehow, just research? WU: Yes, research... we have to thank to the Netherlands while they do this research... as we (As CEGIS) exist because of them. CEGIS is a brainchild of Netherlands. We always acknowledge the Dutch help, we have a strong relationship with them."

9 "JD: Could you please explain me a bit more about this coastal embankment project? It was done to increase the agricultural production in the south-west region. That's why this project was taken by BWDB. JD: By protecting land? KH: Yes, with a lot of sluice gates. But the EIA was not developed by the BDWD, but then it was required and then CEGIS elaborated it."

9 "JD: As an outsider institution, who has been involved, ADB, or who else? KH: Just ADB (Asian Development Bank), no more..."

9 "JD: ADB, they just gave the money, or how was the money? KH: They were giving the money to infrastructure, and also Water Management associations and other things to BWDB to implement this project (TRM apparently). More in the cultural part..."

11 In 1996, the Water Board had a plan to prepare a huge sluice gate in river 'subshia'. That was a huge project, planned to be funded by ADB... in that period it was not CEGIS but EGIS. Before CEGIS it was EGIS II and before EGIS, and before ISPAN, and it was initially funded by US Govt. SO it was ISPAN, EGIS, EGIS II and then CEGIS, all from 1991 to 2002.

11 But in FAP 14, 16, 19 and 23 those were funded by US govt and conducted by ISPAN (Irrigation Support Project for Asia and Near East). Then, it included the EGIS (E from environmental part) with Dutch funds, and then evolved to CEGIS.

11 So they said, if you open the area, all the silt will come, but now salinity is more and more, so we have to manage salinity now... The people said, lets do Tidal River Management... So mr. Rob lead the whole team, was from EGIS and he was Dutch. He said, locally, this concept is fine, but technically it has to be done better. SO they proposed what to do with TRM, and proposed the rotation system of 50 years and so...

14 "JD: Do you think that if Blue Gold (and Dutch people) is – for instance – expanded and also works with TRM, would it be good:? What do you think? SA: Good question. It would be difficult for their system (BWDB), they design hasn't considered shared session with community people, activists, etc. They have sessions to bring people, have good food and that is. Now, if really we need to consider the community knowledge, you need to knock the door of the local people. Their project outline there is no scope of community people. Who is most of the community is formed by local people too. There is no exit or entry point for outsider knowledge. They are overconfident in their technology and problem. This is the problem. So, if they consider that something will be changed, and every year it is discussed with real activists, that should be better for your solution. But without this approach it is not possible to ensure participation of community people or activists. If you go there, they go for food and tea, but not necessarily to develop and solve with them. They should develop a solution, a local solution, this is our solution. Actually the main problem for the BWDB... [got lost in his idea...]. I bound to say that here, the problem is an egoistic problem. Say I'm an engineering with PhD in Netherlands. Why would I consider local people?"

15 "JD: One question around BG. This international involvement in the field they have, could be helpful for TRM? JS: I am saying to unclog this problem is the local people. We have to solve It ourselves first, that's between BWDB and local people, the more middle person gets there, it's a relationship, the more people involved, the more difficult. Maybe after setting the dispute, they can help to scale it up... or replicate it to other parts of the world. But the family problem has to be solved first."

16 During the colonial period, the south western part basically during 1800s they have decided hey will lease this portion of forsest and make a small lot and sell out to British or

Indian people, to start human settlement. That was the problem at that point. Now in the last 20 or 30 years we have started blaming our 1962 CEP (Coastal Embankment Program). That was another man made disaster. All is very vulnerable in this community, still we have low increasing opportunit

#### INSTITUTIONAL TRANSPLANTATION - 2. AVOID 'XEROXING' (COPYCAT TRANSPLANTATION) – USE MULTIPLE MODELS AND GO FROM THE GENERAL TO THE SPECIFIC

**Was there a copycat translation of an idea? How was the process of bringing/implementing a foreign idea into the beneficiary country? To what extent was it actually a "copy" of ideas?**

4 "JD: The KJDRP transformed to be TRM, as a first part of TRM? They cancelled the sluices/regulators and went for TRM? RR: Yes, after the beel Bhaina experience they agreed. Before, they were planning to build regulators, to what local people opposed."

15 Why did the sluices worked in the south east or south-center, but not in the south-west? There was a strong cyclone some years ago, and In that cyclone the south-east had no protection or whatsoever, they are similar to us (SW), so massive floods came in and then construction of polders helped there, because they didn't have the Sundarbans. That's why polders came to BD, as a barrier. But here, it didn't work. . . In the right side you have huge upflow coming in, unlike the west side. And you can see how over time, the uplow shifts from west to east. . . Traditionally it has shifted. In the west side the main water is tidal water, and in the monsoon is just runoff.

#### INSTITUTIONAL TRANSPLANTATION - 3. HIRE AND USE PROACTIVE INSTITUTIONAL ENTREPRENEURS

**Which were the actors promoting the idea/project in the local context?**

4 Additionally I think that the implementing agency didn't take much interest in the operation of TRM. Because their original interest was in building big infrastructures, so once that was robbed, they were not interested in this community organized solutions.

4 They adopted it but they were a reluctant observant. They were expecting it to fail, because if there needs to be successful, you need to be deeply involved with the community as implementing agency, you need to encourage them, patronize then, you need to seat with beel Kedaria, Kukshia people and motivate them. Instead of that, they were actually hoping that the system would fail, so they could go back to the original regulator idea.

4 "In that region, I'd say that situation hasn't improved between BWDB and local people. Because the trust has been broken to a level in which is difficult to recover. I would say that trust from both sides, not just BWDB. JD: Why both? RR: Local people and their commitment, they didn't keep their commitment. "

4 "JD: What is the nearest thing to a solution, in your perspective. RR: The nearest solution is that BWDB has to take the initiative. It has to lpay a more active and engaged role, otherwise it wont be successful. Local people have to play their role, but til now BWDB has basically played no role in making it successful, they have to make challenges to make it successful. They are the implementing agency, is their project."

4 "JD: Who should make the change? How should the institutional change move? RR: That has to come internally. I raised that BWDB is opening up more and more. It cannot happen overnight even. You have to give time. It would be better if they take initiatives. The things have become so complicated. . . I believe trust has been broken, from both sides. In this case, minister, from higher level."

4 The minister was very happy because flood season was almost over... he gave a speech (in another region in BD). I think in KJDRP area, similar engagement of higher level is needed.

4 "JD: It seems that it will only happen (if I understand you properly), only when something bad really happens. RR: Yes, unfortunately. You need a trigger point. Especially in developing country unfortunately that happens, in KJDRP when water logging was severe and there was large scale massive movement, govt during 1990s was very engaged. That's why local solution was adopted! Because the govt was pretty much engaged. This TRM in Khedaria. BWDB wouldn't have accepted this solution."

7 "JD: Everyone pushes to BWDB the responsibility. A big part of responsibility seems to rely on them. What should they do different? FK: In BWDB they have some limitation, they are a govt organization, they cannot do everything. If they want to do TRM, you have to give the compensation, but when the real land owner is looked for, it gets confused and is really difficult."

11 "JD: Who was responsibly of this 'experiment'? SK: No one, it was their initiative... but for 2 or 3 years it happened, that public institutions were there to stop the cut point... it was BWDB, but the pressure to do it came from the local people."

11 But now Bangladesh govt and institutions mentality is difficult, as TRM doesn't move that much money, people (from inst) are not eager to help.

11 ... I told you, BWDB have to show the good wish to local people, and they don't have it... if they prepare things for people that would be fine.

11 "JD: Why doesn't BWDB has the 'good intention'?? SK: At the beginning they fiercely denied TRM as a solution... Now they're doing it but not convinced... because TRM is less costly... and it is not helpful for their own... TRM is a fourth of the cost of other solutions. If they spend more money that would benefit them... it is another issue."

12 "RA: Ministers, DG of BWDB. They are not in favor of TRM because it takes some much time to implement (5 to 6 years), and if we go for engineering solutions, we have some money generation... that think the higher authorities. TRM is good for the environment but they are not on favor of it because of this (money and time). Local people is in favor of TRM..."

12 "JD: How should politics change then? RA: That's how it works in the whole country, but if you can change it, that would be great, especially change the perception. If perception is changed, it becomes easy. Then people will agree easily. The uppermost authority are not in favor of TRM."

15 "JD: What's the solution then? JS: The solution is that BWDB connects properly with people. Really. At the end of the day is BWDBs projects. People has to feel that BWDB is supporting them, even if a project faces delays, they would be there... At the end also is their problem (BWDB), if they includes people, that would make a huge difference. Every project that BWDB implements has no ground implication."

16 "JD: It started in 90s, wasn't there any water authority then? R: No, this was the most unpopular department in this region (BWDB). Because all dikes or embankments in this area, is in hands of BWDB. People opened Dhakatia and in 4 or 5 years water started coming again and they started dredging this land. "

19 "I think most people in BWDB are corrupted, is my perception. If they get 6 crore, they spend 2 or just 1 crore.

JD: How do you know that? SS: I have seen some studies to review the work of BWDB

in XX polder, of 1 or 1.5 years ago, and they say that BWDB bought almost 2 lakh bamboos, but when we visited the embankment area, we saw 10 or 15 bamboos."

#### INSTITUTIONAL TRANSPLANTATION - 4. RECOGNISE AND USE WINDOWS OF OPPORTUNITY WHEN THEY APPEAR

**What windows of opportunity occurred to implement the initiative? Was there a feeling of crisis or emergency around it?**

1 'From aid to trade' that was the Dutch perspective, but I think we should also learn from that.

11 In 1996, the Water Board had a plan to prepare a huge sluice gate in river 'subshia'. That was a huge project, planned to be funded by ADB... in that period it was not CEGIS but EGIS. Before CEGIS it was EGIS II and before EGIS, and before ISPAN, and it was initially funded by US Govt. SO it was ISPAN, EGIS, EGIS II and then CEGIS, all from 1991 to 2002.

11 But now Bangladesh govt and institutions mentality is difficult, as TRM doesn't move that much money, people (from inst) are not eager to help.

#### INSTITUTIONAL TRANSPLANTATION - 5. ACCOUNT FOR CULTURAL AND ADMINISTRATIVE DIFFERENCES AND SIMILARITIES

**How were divergences tackled by the donor agent? To which extent were they managed?**

1 "Because this is South-Asia, and bureaucracies are tough stuff here. And to certain degree these organizations have some "autonomy" (not that), very limited structured controlled by parliament. The system works differently here compared to NL. So these (in BD) are traditional engineer organizations and they have remained so. That is a pity... at least the sociology. TRM (Tidal River Management) is a good example. It started 25 years ago, by CEGIS among others, they formulated TRM as an alternative, as the KJRDP, the BDWB was in favor of constructing big regulators."

14 Most of the govt interventions are funded by Dutch engineering, but also our problems came from that, see the polderization and affected Sundarbans and so. We are less faithful on Dutch Engineering now, this is a very open discussion.

14 "JD: Although I see the problem of siltation comes from building the polders, it has helped to make solutions as well, don't you think so? It was the solution back then. SA: No, it was no solution. Because our scientists, geologists, say that this land deformation is a moving process from nature. This land reformation only for 300 years has happened. So this was a wrong decision.

JD: What would have been the solution back then then? SA: It would've been committed people doing a move. The people would have to leave, and come back next year. Again and again was doing that. It was 6 months embankment, 6 months without embankment. But in name of the development they took these decisions, which was a wrong decision. If we agreed with Dutch engineers, ok, polders are good. But why sluice gates are narrow?? This is the problem [explanation of sizes of sluice gates and siltation there]. IT should have been wider, so silt could come inside.

They did small gates in name of canal management, I'm not academic, but this happened, and this is wrong engineering."

#### INSTITUTIONAL TRANSPLANTATION - 6. USE ONLY NEUTRAL OR POSITIVE SYMBOLS

**What symbols are present around the initiative that reinforces the positive image or results of it? Are there negative symbols or connotations around?**



14 "First we need action for a safe river here. Everyday we need water flow from upstream and downstream. That could be helpful TRM. If there is no river, why TRM? We need the river first of all. We are silting it in name of developments. River is part of ecology and part of life. This concept is very very very essential for the govt. It should be for them, for gevt and BWDB. Is integrated issues a solution. It should be a nature governance what has to be done."



# D

## ORGANIZATIONS INTERVIEWED

The following is the list of the organizations interviewed, with the codes of the interviewees from it. The reason to present the information this way is to keep confidentiality, as several statements are quoted directly and some of them could be sensitive. However, the full names of the interviewees were shared with my research supervisory team. If further information is required, it can be delivered upon request:

- Khulna University - <19, 20>
- BCAS (NGO) - Bangladesh Centre for Advanced Studies - <13>
- EKN-BD - Embassy of the Kingdom of the Netherlands in Bangladesh - <1>
- CEGIS - Center for Environmental and Geographic Information Services - <7,8,9,10,11>
- GED - General Economic Division (Planning commission of Bangladesh) - <2>
- BWDB - Bangladesh Water Development Board - <5>
- AOSED (NGO) - An organization for Socio - Economic Development - <14>
- BanDuDelta team - <3>
- Blue Gold program - <21>
- Uttaran (NGO) - <15>
- Rupantar (NGO) - <16>
- Local Leader(s) / TRM - <17,18>
- International Financing Agency - <6>
- BUET - Bangladesh University of Engineering and Technology - <4>



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