



# Transboundary Water Cooperation over the lower part of the Jordan River Basin

Legal Political Economy Analysis of Current and Future Potential  
Cooperation



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## List of Abbreviations

AIES	Arava Institute of Environmental Studies
COGAT	Coordinator of Government Activities in the Territories
CSOs	Civil Society Organisations
FoEME	Friends of the Earth Middle East
GI	Geneva Initiative
HSI	Hydrological Service of Israel
IWA	Israeli Water Authority
IWRM	Integrated Water Resource Management
JD	Jordanian Dinar
JNCW	Jordanian National Commission for Women
JRBO	Jordan River Basin Organisation
JSET	Joint Supervision and Enforcement Team
JWC	Joint Water Committee
MCM	Million Cubic Meters
MEDRC	Middle East Desalination Research Centre
MoU	Memorandum of Understanding
NGO	Non-governmental Organisation
NIS	(New) Israeli Shekel
PA	Palestinian Authority
	Palestinian Campaign for the Academic and Cultural Boycott of
PACBI	Israel
PLO	Palestine Liberation Organization
PWA	Palestinian Water Authority
RBO	River Basin Organisation
TVA	Tennessee Valley Authority
	United Nations Relief and Works Agency for Palestine Refugees
UNRWA	in the Near East
UNTSO	United Nations Truce Supervision Organisation
USAID	United States Agency for International Development
USD	US Dollar (\$)
WHO	World Health Organisation
ZOPA	Zone of Possible Agreement
ZOPEC	Zone of Possible Effective Cooperation

## List of legal instruments

The purpose of this list is to provide names of legal instruments cited in this report. The list is divided into multilateral, bilateral and national legal instruments. For legal instruments with long names, short names are provided unless otherwise indicated. In the interests of brevity, the report refers to short names in citations.

### *Multilateral instruments*

Geneva Convention relative to the Protection of Civilian Persons in Time of War, 1949 [Fourth Geneva Convention].

Declaration on Principles for Cooperation on water-related matters and new and additional water resources, 1996 [Declaration on Cooperation].

UN Convention on the Law of the Non-Navigational Uses of International Watercourses, 1997 [UN Watercourses Convention].

### *Bilateral instruments Israeli – Palestine*

The Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip, 1995 [Oslo II].

The Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip, Annex III, Appendix I: Powers and Responsibilities for Civil Affairs, 1995 [Oslo II/Civil Affairs, 1995].

### *Bilateral instruments Jordan – Israel*

Treaty of Peace between The Hashemite Kingdom of Jordan and The State of Israel, 1994 [Peace Treaty].

### *National instruments*

Israeli Military Order 158, Order Concerning Amendment to Supervision over Water Law, 1967 [Israel Military Order 158].

The Water Law of 1959, 1959 [Israeli Water Law].

## Executive Summary

The lower part of the Jordan River originates in the Sea of Galilee<sup>1</sup> and flows through the Jordan Valley into the Dead Sea. The river runs along the border between Jordan and Israel in the north, and the West Bank and Jordan in the south. Traditionally, the river plays an important role in various religions that exist in the region, and supports the livelihoods of many living alongside the river. The flow of the river has decreased significantly in the past 60 years due to river diversions and intake by riparian countries. This reduction of flow, coupled with evaporation ponds for the purpose of mineral extraction from the Dead Sea, is one of the causes of the shrinking of the Dead Sea, which has lost approximately one third of its surface area to shrinkage since the early 20<sup>th</sup> century. The river also faces a severe problem in its water quality due to the discharge of untreated waste water into the river.

There have been numerous attempts of water diplomacy to promote more effective shared utilisation of the water among riparian actors of the lower part of the Jordan River. An early attempt was that of US Ambassador Johnston, who started the so called 'shuttle diplomacy' in the 1950s without resulting in any agreed water allocation. In 1994, Israel and Jordan signed the Treaty of Peace between The Hashemite Kingdom of Jordan and The State of Israel, 1994 (The Peace Treaty) with its annex detailing water use from the Jordan River between the two nations. Israel and Palestine signed the Interim Agreement on the West Bank and the Gaza Strip (Oslo II Agreement) in 1995, with its annex providing provisions for joint water management within Palestinian territory. In 1996, Israel, Jordan and the Palestine Liberation Organisation (PLO) signed the Trilateral Declaration on Principles for Cooperation on Water-Related Matters and New and Additional Water Resources. This cooperation later led to the establishment of the Middle East Desalination Research Centre (MEDRC).

Civil society also plays a crucial role in promoting water cooperation over the Jordan River. EcoPeace Middle East (formerly known as Friends of the Earth Middle East), for example, facilitated the development of a regional NGO Master Plan for the lower part of the Jordan River, which aims for its rehabilitation and sustainable management, and includes 127 interventions within 3 countries. EcoPeace has also facilitated a number of transboundary water cooperation related activities among local governments and communities, under its Good Water Neighbours initiative. The Geneva Initiative (GI), which aims to develop a peace agreement between Israel and Palestine, is another civil society-led initiative. The GI developed the Geneva Accord; one of the annexes to the Geneva Accord focuses on water.

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<sup>1</sup> This water body is also called Lake Tiberias or Lake Kinneret. Recognising different cultural contexts associated with the name, this report uses the term Sea of Galilee for simplicity.

As a method of identifying solutions to water challenges, it is inevitable that key factors affecting transboundary water cooperation must be understood. The understanding of such factors will also support potential future cooperation scenarios of transboundary waters. While there are many studies analysing transboundary water cooperation surrounding the lower part of the Jordan River, a systematic analysis of various cooperation action situations focusing on key factors affecting cooperation is rare. With this background in mind, this research project analyses key factors affecting current transboundary water cooperation within the lower part of the Jordan River, which then will be used as a basis to analyse the potential for future cooperation.

As a way to understand factors affecting transboundary water cooperation, this project developed the Multi-Track Water Diplomacy Framework. Each situation on water cooperation is identified as an 'action situation', which is referred to as 'the social space where participants with diverse preferences interact, exchange goods and services, solve problems, dominate one another or fight' (Huntjens et al., 2016, p. 23). This research focuses on five action situations of water cooperation surrounding the lower part of the Jordan River, including Track I, II and III types of cooperation. The key factors affecting each action situation analysed in this report include basin-wide contexts, some of which are situation-specific to a particular action situation; formal and informal institutions; and actors and agencies, i.e. actors' power to influence. These factors make up the key components of the analytical framework, and are used to structure this report. After a description of the basin-wide contexts (Chapter 3), from Chapter 5 onwards, this report discusses different action situations of cooperation, and offers an analysis of key factors affecting each action situation. Following the analysis of existing cooperation, Chapter 10 focuses on an analysis of factors affecting possible future action situations, which we termed the Zone of Possible Effective Cooperation (ZOPEC).

Recognising the existence of many other cooperation initiatives within the region, this research analysed five action situations related to existing transboundary water cooperation that exist within the basin. They include 1) cooperation between Israel and Palestine; 2) cooperation between Jordan and Israel; 3) Red Sea-Dead Sea Conveyance Project; 4) Water in Geneva Initiative; and 5) Regional NGO Master Plan. The research conducted 35 field interviews from experts within the region, and selected cases of cooperation for the action situations most repeatedly referred to by these experts as key cooperation initiatives.

Cooperation between Israel and Palestine (Chapter 5) is based on the Joint Water Committee (JWC), which was established through the Oslo II Agreement signed in 1995. The agreement was intended to be of a temporary nature, yet after 20 years, final agreement has not yet been reached. The main function of the JWC is to manage water resources in Palestinian territory, and to approve projects proposed by both Palestine and Israel. Many interviewees expressed their views that cooperation through JWC was not effective, and the JWC has been stalled since 2010. While Oslo II provides a legal basis of JWC, which is designed to provide the

opportunity for joint management of water resources (formal institution), at times, Palestinians receive informal pressure to connect its water facilities with Israeli settlements as a condition for approval of the project (customary institution), resulting in Palestinians no longer pursuing the project. The asymmetrical power relationship between Palestine and Israel affects the status of cooperation between the two actors (actors and agency).

Cooperation between Israel and Jordan (Chapter 6) is based on the Peace Treaty (formal institution). The treaty established the JWC as a mechanism of cooperation. In contrast to the JWC between Israel and Palestine, the JWC between Israel and Jordan is functioning and working relatively well. The treaty also includes an annex on the environment that includes the ecological rehabilitation of the Jordan River, and both governments are working on their own plans for the rehabilitation. While the Jordanian population in general has mixed feelings about its relationship and the deal reached by a peace treaty with Israel, Jordan is an important strategic partner for Israel as it is one of the few Arab countries Israel has established a peace treaty with (customary institution). Jordan has also absorbed a large number of Palestinian refugees, caused by Israeli-Palestinian territorial conflict. From the perspective of Israeli strategic interests, Jordan plays a key role as a buffer with the rest of the Middle East states, and maintaining a positive relationship with Jordan has become one of the key strategies for Israel (actors and agency).

The Red Sea-Dead Sea Conveyance project is a cooperation initiative among three nations: Jordan, Israel and Palestine (Chapter 7). It is an ambitious infrastructure project to connect the Red Sea and the Dead Sea, in order to counteract the shrinking of the Dead Sea, produce additional drinking water by the means of desalination and produce energy through hydropower development. A feasibility study was conducted with the support of the World Bank (actor). The initial phase of the project, which aims to build a desalination plant in Aqaba, the southernmost town in Jordan, is in an early stage of development. Through this project, Jordan and Israel have agreed to swap water, whereby Jordan provides desalinated water produced in the south to the southern part of Israel; and Israel in return, provides its water to Jordan in the North. The arrangement allows both nations to increase the water supply in parts of the country where water is most scarce. One of the main factors affecting this situation is the severe water scarcity Jordan faces (basin context). While Palestine does not have a large stake in the project, it is considered to have agreed to the project as the project has its importance for Jordan, the country where Palestinians have a close relationship in many ways (customary institution).

This report then provides an analysis of two civil society led cooperation processes. The GI is one such process (Chapter 8), which started after the official peace process (Camp David) failed (basin context). After developing the Geneva Accords in 2003 (formal institution), which primarily focused on the controversial issues of Jerusalem and refugees, the initiative developed thirteen annexes in 2009, one of which focuses on water. The annex was revised as an addendum in 2015. While

the Geneva Accord and its annexes have not been adopted as official positions of Israel and Palestine, some of the interviewees to this research indicated that the document is often used by government officials and diplomats as references. While the initiative is primarily participated by individuals in their private capacity, members who took part in the initiatives included retired government officials and prominent academics whose opinions are embedded in the reality of the current situation (actors and agency). While the formal negotiation process often faces political hindrance, this type of unofficial negotiation provides opportunities for negotiators to take more open-minded positions (customary institution).

The Regional NGO Master Plan (Chapter 10) process is another civil society led process examined through this research. The process was facilitated by EcoPeace, engaging various actors in Israel, Palestine and Jordan. One of the main objectives of the Regional NGO Master Plan is to rehabilitate the lower part of the Jordan River, a key concern for many within the basin (basin context). The plan includes 127 interventions within 3 countries, and consists of national plans by each country with some projects requiring transboundary intervention. While the national plan is supported by the Jordanian government, not all stakeholders are on board in Israel and Palestine. One of the reasons this situation may reflect existing criticism is related to normalisation (customary institution) whereby initiatives attempting to establish cooperation between Israel and Palestine are considered as accepting the status quo for Palestinians.

Following the analysis of five current action situations, the research analysed ZOPEC, which is a combination of viable future action situations. The analysis conducted builds on a comparison of existing proposals on regional water cooperation, and aims to understand the common denominators of the proposals. Proposals compared include: the Geneva Accord in 2009 and subsequent addendum in 2015, proposals on bilateral water cooperation by EcoPeace and the Regional NGO Master Plan. Common denominators identified include: adoption of IWRM in management of water allocation; equitable and reasonable utilisation and avoidance of significant harm in transboundary water resources; some form of basin organisation and stakeholder participation; and some kind of stability or agreement in the peace process. Coupled with emerging basin factors that can potentially affect cooperation, the research proposes that ZOPEC for the lower part of the Jordan River Basin should include basin-wide joint management of regional water resources through a benefit sharing arrangement on the water-food-energy nexus. One of the key basin contexts that materialises in this scenario is the increased water share through improved technology in desalination. More specific action situations include the establishment of the Jordan River Basin Organisation; joining a research and knowledge exchange that can build trust; the joint rehabilitation of the river; and pollution control and waste water treatment.

The analysis of five action situations concludes that basin context, formal and customary institutions, actors and agency all influence and shape the way current cooperation takes place. These factors also interact with each other when

influencing action situations. The Multi-Track Water Diplomacy Framework developed for the purpose of analysis proved to be a useful tool in analysing the current cooperation situation. The combination of existing proposals and analysis of emerging basin context were observed as being key factors that can influence ZOPEC.



## 1. Introduction

The lower part of the Jordan River originates in the Sea of Galilee and flows through the Jordan Valley into the Dead Sea. The river runs along the border between Jordan and Israel in the north, and the West Bank and Jordan in the south.

Traditionally, the river plays an important role in various religions that exist in the region, and supports the livelihoods of many living alongside the river. All riparians share the Jordan River's cultural heritage as a religious site. There are three baptism sites along the river – one at Al Maghtas in Jordan, one at Qasr al Yehud in the West Bank (operated by Israel) and one at Yardenit in Israel – that each attract a great number of pilgrims every year (Châtel, 2014).

The flow of the river has decreased significantly in the past 60 years due to river diversions and intake by riparian countries. This reduction of flow, coupled with evaporation ponds for the purpose of mineral extraction from the Dead Sea is one for the causes responsible for the shrinking of the Dead Sea, which has lost approximately one third of its surface area since the early 20<sup>th</sup> century. The river also faces a severe problem with its water quality due to the discharge of untreated waste water into the river.

Water conflict and cooperation surrounding riparian countries among the Jordan River has been one of the most contentious issues in the Middle East, at times leading to the use of military force. This is particularly true in the lower part of the Jordan River Basin, where there has been a shift in territory and power, closely linked to the management of, and contention over, water. Access to clean and sufficient water is critical in the Middle East, not only for human health, the environment and economic development, but also for establishing stability and sustaining peace (Huntjens, 2017). Since 1991, water has been one of six key regional issues, the others being the finite borders between Israel and Palestine<sup>2</sup>.

The region also faces new opportunities. Improvements in desalination technology and the cost reductions associated with this technological advancement have increased the availability of water in the region (Feitelson & Rosenthal, 2012). Technical improvement in water treatment also allows the same water to be reused and recycled for different purposes. This technological improvement allows actors to shift their focus from pure water allocation to opening options for multiple use approach.

While there are many studies analysing current water contention over the lower part of the Jordan River, there is a gap in a comprehensive analysis of factors affecting various cooperation action situations taking place within the basin, linking analysis to future potential areas of cooperation. This report is the result of a research project aimed at filling this gap. Five key cooperation action situations

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<sup>2</sup> The research team recognises the current political context and different ways of referring to occupied Palestinian territory. For the purpose of brevity, we use the term 'Palestine' to refer to occupied Palestinian territory, as well as its autonomous governing mechanism.

that take place within the lower portion of the Jordan River basin are analysed. The analysis was conducted using a Multi-Track Water Diplomacy Framework as the core of its analysis. These analyses, along with existing proposals for possible future solutions, were used to develop the Zone of Possible Effective Cooperation (ZOPEC) for the lower part of the Jordan River Basin.

## 2. Methodology<sup>3</sup>

### 2.1 Research background and objectives

Management of water is an important item on the global agenda in the 21<sup>st</sup> century (United Nations, 2015). Although one could argue whether water could be a cause of war, there are many conflicts and tensions related to water among various groups, as well as between states (Wolf, 1998). In the case of transboundary freshwater bodies that cross national borders, effective cooperation among riparian states is often a challenge. While it is an important topic of concern and a great amount of research has been conducted on transboundary rivers, hardly any literature specifically focuses on identifying key determinants for shifting water conflict into cooperation in the context of transboundary rivers. Understanding such determinants will not only contribute to the existing academic body of knowledge, but will also have the potential for contributing to practical management for transboundary waters.

With this background in mind, the objective of this research is to analyse the key determinants contributing to the development of mechanisms for the cooperative management of the shared ecosystems of the lower part of the Jordan River Basin. Through the analysis of these factors, the research also aims to identify the ZOPEC among key stakeholders in the basin.

Based on this objective, two main research questions are addressed.

- What are the key factors affecting water cooperation in the transboundary context of the lower part of the Jordan River Basin?
- What is the Zone of Possible Effective Cooperation among basin stakeholders?

While the research on the entire Jordan River Basin would have benefited from having the whole basin as its scope, due to the region's current safety situation, the research team was unable to include the upper part of the Jordan River Basin.

### 2.2 Development of conceptual and analytical framework

In order to conduct this research, the Multi-Track Water Diplomacy Framework (Huntjens et al., 2016) was developed as a conceptual framework to understand factors affecting water cooperation. As there is no single method for understanding what entails effective cooperation, this framework was developed based on existing literature and adopts different schools of thought on understanding effective cooperation, creating building blocks for the conceptual framework.

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<sup>3</sup> This case study for the lower part of the Jordan River was conducted as part of a project Water Diplomacy: Making Cooperation Work. The project analysed two case studies: the lower part of the Jordan River and the Brahmaputra River. Therefore, the methodology for this study is based on the same approach as the Brahmaputra River case study.

As a way to analyse key concepts in the research, each building block of the conceptual framework is being developed into an analytical framework. Variables are developed in order to determine ways to analyse different aspects of effective cooperation, based on existing literature. In addition, key aspects of existing political economy analysis are also used to determine key variables.

The framework consists of five analytical components, namely: 1) Action situation 2) Basin-wide context and situation specific context 3) Formal and customary institutions 4) Actors/agency and 5) Outputs, outcomes and impacts. For each component, relevant dimensions, variables and indicators were developed in order to determine factors affecting cooperation. Indicative questions were developed for the purpose of facilitating field interviews and are listed in Annex I. The conceptual framework is illustrated in Figure 1 and includes the following components:

### 1) Action situations

The term action situation is defined as 'a situation in which two or more individuals are faced with a set of potential actions that jointly produce outputs and outcomes' (Ostrom, 1999). In this framework, an action situation is the key component that describes the status of water cooperation. As the main purpose of this research is to identify key factors affecting cooperation, all the components of the analytical framework are designed to explain the action situation.

### 2) Basin-wide context and situation specific context

This analytical component provides a description of challenges facing a specific river basin. It includes biophysical material characteristics of the river, key socio-economic characteristics, the nature and extent of development, and past and ongoing water cooperation. Among all the variables, context that is specific to the particular action situation is called situation specific context.

### 3) Formal and customary institutions

While there are many different definitions of the term 'institutions', this framework adopts the definition by Calhoun (2002) and defines institutions as 'deeply embedded patterns of social practices or norms that play a significant role in the organisation of society' (Calhoun, 2002, p. 233).

The framework distinguishes between two types of institutions: formal and customary.

- Formal institutions: Institutions that are adopted through a formalised process. Examples include constitutional rules, codified laws, and rules adopted by organisations and policies.
- Customary institutions: Institutions that are embedded in organisations or groups without a formalised process. Examples are norms and culture (Huntjens et al., 2016).

#### 4) Actor-Agency

Actors related to water cooperation include all types of stakeholders including government, political leaders, non-governmental organisations, civil society actors, religious organisations, academia, researchers and the private sector. Agency refers to the ability of an actor to exert influence (Ali-Khan & Mulvihill, 2008). In analysing actors and agency, the framework reviews the existence of actors, an actor's influence and the type of leadership. Understanding and analysing power relationships provides key insights into understanding agency.

#### 5) Output, outcome, impact

Outputs are the direct result of action situations. For example, cooperation among two countries may result in a Memorandum of Understanding (MoU) for data sharing. Such MoU is an example of an output. Outcome is the change of behaviour of actors as a result of cooperation or output. In the context of water cooperation, there are different types of outcome that can favour different factors. For example, water cooperation can result in an outcome where actors are managing the river with an optimal ecological outcome. Water cooperation can also result in actors managing the river with an economically optimal outcome. Impact includes facts on the ground and actual impacts as the result of cooperation, policy decisions and agreements (Huntjens et al., 2016).

Our analysis does not assume that policies or decisions on the lower part of the Jordan River are made independently of the political, social and economic environment in which they are embedded. Rather, we seek to understand the contextual factors that underline specific action situations, and view the interaction between structure and agency<sup>4</sup> as dynamic and contingent rather than static and predictable. In trying to understand the nature of the institutional frameworks for water sharing, we argue for a broad approach that encompasses both formal and customary institutions. Similarly, our stakeholder analysis approach is premised upon the idea that there are a variety of constituents and that these occur and interact at a variety of scales. Specific action situations, such as a negotiation or a multi-stakeholder dialogue, will involve particular interactions of this structure-agency dynamic. Outputs from this interface, such as a decision, a project approval or suchlike will be the consequence of the interaction between these various actors and institutions.

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<sup>4</sup> Scholars such as Anthony Giddens (1984) and Alexander Wendt (1987) have argued that social structure is both the medium and outcome of action. Actors have preferences which they cannot realise without collective action; based on these preferences they shape and re-shape social structures, albeit also through unintended consequences and over a longer period of time; once these social structures are in place, they shape and re-shape the actors themselves and their preferences. In other words, the constitution of agents and structures are not two independent sets of phenomena, meaning that structures should not be treated as external to individuals (Huntjens et al., 2016).



# Multi-Track Water Diplomacy Framework

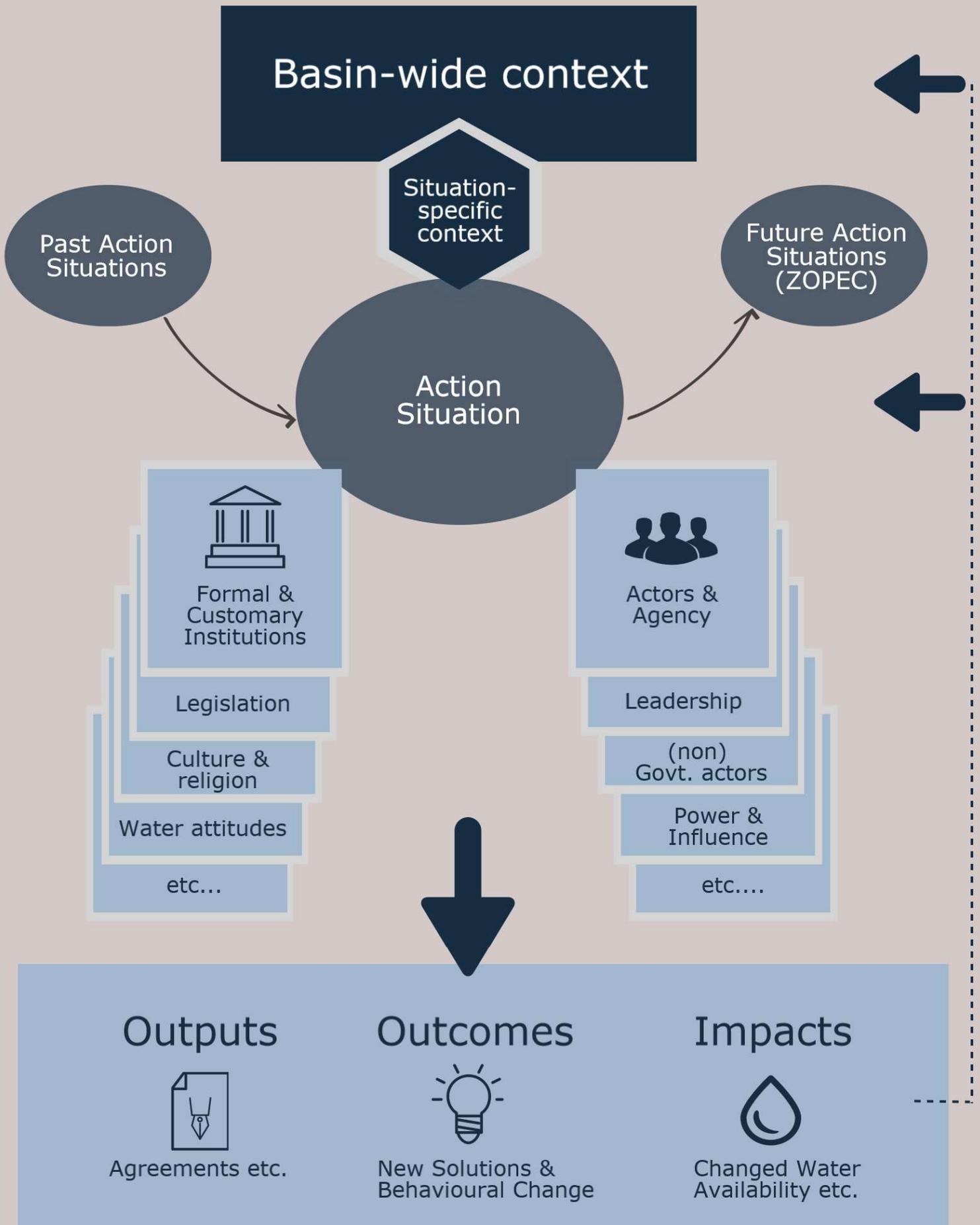


Figure 1: Conceptual framework for understanding factors affecting water cooperation at multiple levels (local to transboundary). Source: Huntjens et al. (2016).

In an ideal situation, the outcomes or impacts that occur because of the dynamic structure-agency interface, in particular action situations, will lead to optimal outcomes. We can think about what might constitute an optimal outcome in a variety of different ways: these may be ecologically optimal, economically optimal or may reflect the preferences of the riparian populations.

### 2.3 Data collection and analysis

This research uses two types of data and analyses them using a grounded theory approach as a basis for data triangulation, illustrated in Figure 2. Most interviews were conducted between February to June 2016, with additional interviews at a later stage. Literature and existing information were collected throughout the research period until March 2017.

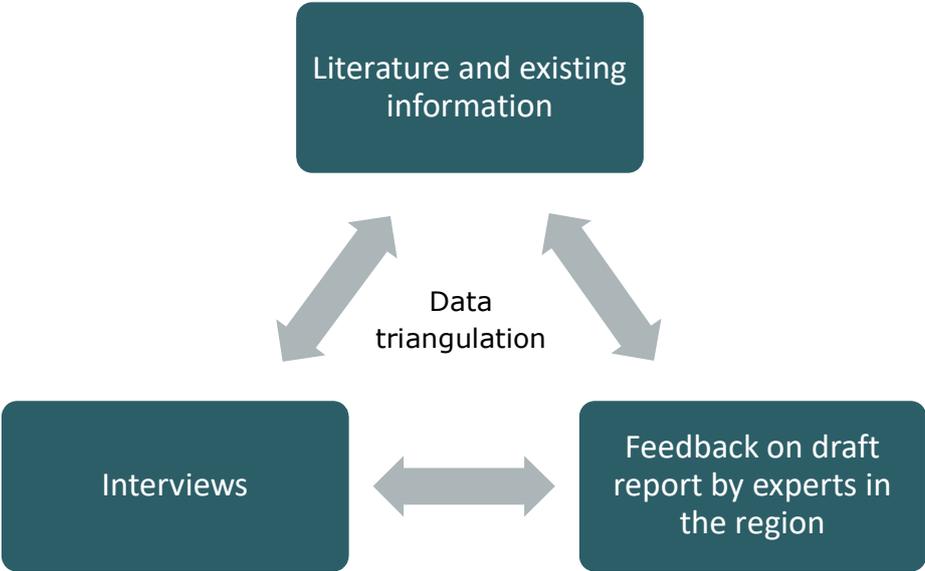


Figure 2: Data triangulation for this research

#### 2.3.1 Literature and existing information

A review of literature and existing information regarding case study basins was conducted throughout the research. The main sources of information include: Academic articles; Reports/articles from previously conducted studies; web sites; government documents; laws and policies; newspapers/media; maps; scientific data about water, ecosystem and biodiversity; and other grey literature.

Many of the official documents analysed in this report related to cooperation remain confidential. While the research team made an effort to obtain as much relevant information as possible, due to its nature, some of the analysis relied mostly on secondary information as well as information by interviewees

### *2.3.2 Interviews and observations*

Semi-structured interviews were conducted in each case study area. These interviewees came from various sectors including government agencies, research institutes, media, NGOs and civil society. Interviewees who could provide insights on the research subject were selected to be interviewed. The identification of these interviewees took place through three key steps: 1) stakeholder analysis 2) identification of key interviewees based on the stakeholder analysis and existing contacts of the research team, and 3) identification of new contacts in the field, adopting the snowball sampling method. Where permitted, interviews were either audio recorded or interview notes were taken by the researcher. Recorded interviews were transcribed.

The period of field research was primarily: February-March 2016 for Israel and the Palestine and May-June 2016 for Jordan. Additional interviews were conducted on an ad hoc basis when the opportunity arose. A focused review of literature was conducted before and after the field interviews for each country. The research team recognises that there is a possibility that new developments emerged within the basin which may or may not have occurred during the research period of this study thus may not have been captured in this report. The research team also acknowledges the limitation in obtaining information associated with water management and inter-governmental processes as they often remain confidential, unavailable for external researchers.

The research team also developed an ethical protocol for using data obtained from interviews and field observations. Due to the sensitivity of the subject, all the interviews are cited anonymously unless the interviewee specifically prefers to be cited by name.

Interviews were analysed and used in two different ways, adopting both an inductive and deductive approach to the data analysis. As a deductive approach, interview data was analysed against different variables within the analytical framework. As an inductive approach, the interview data was analysed to identify recurring themes repeatedly expressed by interviewees to identify important factors affecting effective cooperation, an approach adopting the concept of grounded theory (Glaser & Holton, 2004; Tischer, Meyer, Wodak, & Vetter, 2000). MaxQDA was used as analytical software for this analysis. The choice of this software was based on its functionality as well as its easiness of sharing analysis among research team members. In order to ensure that there is no biased approach for analysis by each researcher engaged in the progress, the research team also conducted an inter-coding exercise where different researchers analyse the same interview data separately, compare the result and discuss the way forward for better understanding and adjustment of the codes. The analytical framework and its variables were adjusted based on some of the initial analysis of the research data.

Lists of interviewees per country are available in Annex II.

### *2.3.3. Feedback by experts in the region*

The draft report was reviewed by experts in the region. The report was sent to eight reviewers and seven of them provided their feedback. Two reviewers were selected from Jordan, Israel and Palestine respectively: one reviewer who is familiar with the government's perspective and another reviewer who has non-governmental perspectives. Two additional reviewers who are familiar with the region were also identified as regional reviewers. Reviewers who did not wish to remain anonymous are acknowledged in the acknowledgement section of this report.

## **2.4 Structure of this report**

As presented in Section 2.1, this research adopts the Multi-Track Water Diplomacy Framework as its analytical framework. Following the logical steps of analysis, the research first conducted an analysis of the basin-wide context that includes biophysical characteristics, socio-economic contexts, political characteristics, alterations to the river and interdependencies among riparians. Chapter 3 discusses these basin contexts. Another key factor of the basin-wide context is the status of conflict and cooperation that also consists of the action situation of transboundary water cooperation. Since these cooperation action situations make up the core units of analysis within this research, they require special attention and are thus discussed separately in Chapter 4.

From Chapter 5 until Chapter 9, the report analyses different action situations of water cooperation on the Lower part of the Jordan River. Each chapter uses components of the analytical framework as a chapter structure and has two main sections. The first section discusses the action situation which involves the status of the specific cooperation, outputs, outcome and impact. The second section discusses factors affecting the cooperation (action situation) and discusses formal institutions, customary institutions, actors and agency.

After the analysis of eight action situations, ZOPEC is analysed in Chapter 10. This analysis also uses the Multi-Track Water Diplomacy Framework as its analytical core, and adopts the same structure as the previous eight chapters. Chapter 11 discusses key findings from this research and concludes the report.

### 3. Basin-wide context

The first component in the analytical framework and the starting point of the analysis is to understand the basin-wide context and challenges related to specific transboundary basin risks and opportunities. These factors include biophysical characteristics and their alterations, socio-economic characteristics related to the river, interdependencies among riparian states and political contexts. This section provides an overview of this basin context related to the lower part of the Jordan River Basin.

#### 3.1 Political context

The Jordan River basin consists of the following riparian countries: Lebanon, Syria, Jordan, Palestine and Israel. The current hydrology and water usage within the basin is directly linked with the creation of these riparian countries starting after the First World War.

After the collapse of the Ottoman Empire in 1918, the League of Nations separated the territories of the Jordan River basin. Palestine and Transjordan and Iraq were put under British mandate, while Lebanon and Syria came under French mandate. Britain expressed their support for the establishment of a home for Jews in Palestine through the Balfour declaration of 1917. As a consequence, Jewish migration to Palestine increased, leading to a Palestinian Arab revolt between 1936 and 1939. In order to avoid invoking new uprisings, a British whitepaper of the Chamberlain government in 1939 set limits to the levels of Jewish immigration to Palestine, on the basis of estimates of what the water resources in Palestine could support. The whitepaper triggered Zionist studies into increasing the amount of available water in the region, as otherwise the efforts for creating a Jewish state would be futile. The initial plans of the Zionist leadership did not convince the British authorities. Simcha Blass, an engineer who co-founded Mekorot in 1935, tracked the water resources in the newly established Israel with the aim of developing a unitary national water system. These plans opened the door to the development of a modern Israeli state. In 1944, an American soil scientist, Walter Clay Lowdermilk published the book *Palestine, Land of the Promise* based on his experience in Israel, which made the case for massive public investment in reclamation works in the Jordan River basin, in order to increase the available water. Lowdermilk envisaged a replication of the Tennessee Valley Authority (TVA) in Israel, as this project had brought electricity and water to poor parts within the US. Blass presented a three-phase plan<sup>5</sup> to the UN-committee in 1947, which convinced the UN that, contrary to the conclusions of the British Whitepaper, Israel

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<sup>5</sup> In Phase One groundwater in the Negev was brought to several farms in 1936. In Phase Two, it was envisaged that water from the Yarkon would be brought to the Negev. In Phase Three, it was envisaged that water would be transported from the north to the south.

would have sufficient water resources to support agriculture for a large population. These ideas proved to be of great influence<sup>6</sup> over the water development strategies of Israel for the coming decades (Siegel, 2015).

The Arab states formed the Arab league<sup>7</sup> in 1945 and decided to prevent the establishment of a Jewish state in Palestine. Following the adoption of the UN resolution no. 181 in 1947 (which supported the partition of Palestine into an Arab and Jewish part and a Special International Regime for the cities of Jerusalem and Bethlehem) a war broke out between the neighbouring Arab states (invasion by Egypt, Jordan, Syria and Iraq) and the Jewish state. As a result of this war, Israel conquered 20% more land, while Transjordan took control of the remainder of the former British mandate, and the Egyptian military took control of the Gaza Strip (Haddadin & Shamir, 2003).

From 1949 onwards, several states announced unilateral plans for the development of the Jordan River basin, which caused competition and increased existing tensions. Arab states began to discuss organised exploitation of two sources of the Jordan – the Hasbani and the Banias. Israel worked out its early plans in more detail ('All Israel Plan') to irrigate the Negev desert in the south through a National Water Carrier (see Figure 3) transferring water from the northern part of the Jordan River out of the basin. Jordan then announced a plan to tap the Yarmouk River for irrigation purposes. Subsequently, after Israel started to drain the Huleh Lake and marshes inside the demilitarised zone, military clashes emerged with Syria and Jordan near the inlet of the carrier in 1951 (Haddadin & Shamir, 2003; Wolf & Newton, n.d.).

In 1949, the United Nations established the Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)<sup>8</sup> with a focus on rural development to improve Palestinians' livelihoods. Together with the US<sup>9</sup>, the UNRWA developed plans to dam the Yarmouk River (the Bunge dam) for this purpose. However, the US withdrew its support for the dam after protests from the Israeli government (Haddadin, 2010, p. 240). In parallel, UNRWA requested, with support from Britain and the US, a plan for the sharing of the Jordan Basin waters. They contracted the TVA, whose plan purposefully ignored the political boundaries and instead focused

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<sup>6</sup> Other studies to utilise the Jordan River have been undertaken since 1899 by the British authorities, the Zionist Organisation, Jordan, Israel and others. Under the British mandate, for example, several plans were made to utilise the Jordan River. These plans focused, amongst others, on the use of the Litany River and the transfer of the Jordan River water to the south of Palestine (Haddadin & Shamir, 2003).

<sup>7</sup> The Arab League was formed in 1945, based on the resolutions of the Alexandria Protocol, to protect Arab interests, and in particular to obtain greater freedom from foreign rule and to prevent further development of Palestine as the Jewish national home under the British Mandate

<sup>8</sup> UNRWA was established by United Nations General Assembly Resolution 302 (IV) of 8 December 1949 to carry out direct relief and works programmes for Palestine refugees. The Agency began operations on 1 May 1950.

<sup>9</sup> The US became involved as they feared communist expansion in the area, desired the protection of oil fields and wished to support Israel's existence.

on 'the amount of water needed each year to cultivate arable lands in the basin, and to allocate water shares accordingly' (Haddadin & Shamir, 2003, p. 8) while the Sea of Galilee<sup>10</sup> was designated for common storage (Haddadin & Shamir, 2003).

In 1953, US president Eisenhower appointed ambassador Johnston to work out a unified plan for the development of the Jordan basin. Johnston was provided with the TVA plan. He faced strong opposition from the Arab states, as they were suspicious about the intentions of the US. With support from Egypt, the Arab countries were convinced to come up with an alternative proposal. While the Arab states emphasised the importance of using the Jordan River water within the basin, Israel developed an alternative plan (the Cotton Plan), which focused on using out-of-basin transfers to irrigate the deserts (Haddadin & Shamir, 2003; Wolf & Newton, n.d.).

Between 1953 and 1955, Johnston frequently travelled to Israel, the neighbouring Arab states and Egypt to negotiate a common agreement based on a needs approach. This later became known as 'shuttle diplomacy'<sup>11</sup>. Points of discussion between the states were the out-of-basin transfers, the usage of Sea of Galilee for storing the Yarmouk floods and the share of water allocated to each country. Johnston subsequently acted as an intermediary in negotiations with Israel, Jordan, Syria, Lebanon and Egypt. Palestinians were neither included in the negotiations nor received an explicit allocation, as the West Bank had been under Jordanian control since 1948 (Phillips, Attili, McCaffrey, & Murray, 2007; Wishart, 1990). The Johnston Plan did, however, include a distinction between East Bank and West Bank within the Jordanian allocation, with 505 MCM/y being allocated to the East Bank and 215 MCM/y allocated to the West Bank (Elmusa, 1998).

In the final Johnston Plan in 1955, water allocation was based solely on the riparians' agricultural water demands. Additionally, the Plan used a rights-based approach, referring to each county's water share as their water rights. Coupled with the Plan's principle of allocating all residual water<sup>12</sup> to Israel, the Arab states concluded that they had more to lose by entering into an agreement than by rejecting it (Wishart, 1990). Although the Plan was thus never officially approved, it is still considered as a possible basis for new agreements nowadays.

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<sup>10</sup> This water body is also called Lake Tiberias or Lake Kinneret. Recognising different cultural contexts associated with the name, this report uses the term Sea of Galilee for simplicity.

<sup>11</sup> The term was first applied to describe the efforts of United States Secretary of State Henry Kissinger, beginning November 5, 1973, which facilitated the cessation of hostilities following the Yom Kippur War.

<sup>12</sup> All water that is left in the Jordan River after each riparian has received their allocated share, for instance due to high rainfall.



Figure 3: Israel's National Water System. Source: IWA (2012).

While Johnson's final proposal was not accepted by all Arab states, Israel executed its alternative plan for the diversion of the Jordan River from Sea of Galilee, which became operational in 1964 (Haddadin & Shamir, 2003; Wolf & Newton, n.d.). As a consequence of the Six Day War, during which Israel occupied the Golan Heights, Israel gained access and control over the Banias springs (Segev, 2007).

During the 1980s, ad hoc arrangements were made between Israel and Jordan for the distribution of surface water from the Yarmouk by placing sandbags in the riverbed. These meetings took place at the confluence of the Jordan and Yarmouk rivers and became known as the 'picnic table meetings', which helped to develop a mutual understanding between the two countries (Sosland, 2007). Following the Madrid conference in 1991, a series of bilateral and multilateral negotiations were setup under the sponsorship of the US and Russia. The negotiations focused on water, environment, refugees, regional security and economic development. The multilateral group working on water met between 1992 and 1996. These meetings eventually resulted in the establishment of the Middle East Desalination Research Center (MDRC) (Haddadin & Shamir, 2003).

During the Oslo negotiations, the Palestinian interests were represented by mixed groups of Jordanians and Palestinians, as Israel preferred not to negotiate directly with the Palestinians. The signing of the Oslo Accord between Israel and Palestine in August 1993 allowed Jordan to develop their own negotiation agenda and opened the way for concrete negotiations between Israel and Jordan. Shortly thereafter, Israel and Jordan signed a peace treaty in October 1994 (Haddadin & Shamir, 2003; Kool, 2016).

In the treaty between Jordan and Israel, Article 6 and Annex II refer to water. The agreement does not use explicit references to international law and uses a pragmatic set of principles which have not been used before: 'rightful allocations' refer to 'rights', 'while basing the allocations on what is specified in the agreement itself'. The allocation for Jordan consists of: water from existing sources, well-defined sources which are yet to be developed and an additional quantity of 50 million cubic meter (MCM) for which the sources have yet to be found (Haddadin & Shamir, 2003; Kool, 2016). Part of the treaty deals with the storage of water in the Sea of Galilee. Israel receives 20 MCM from the Yarmouk in winter to a 'point north of Degania' (Sea of Galilee), which it returns to Jordan in the summer, thereby storing water from winter to summer for Jordan.

### **3.2 Physical geography of the Jordan River**

The Jordan River basin is well known for its remarkable geographic features, ancient civilisations and religious relevance. The basin is shared by five riparians: Lebanon, Syria, Jordan, Israel and Palestine, which together define the current political landscape of the area.

The Jordan River runs from north to south, with its headwaters in Lebanon and Syria feeding the upper part of the Jordan, which discharges into the Sea of Galilee.

The lower part of the Jordan River, which is the focus of this research, receives water from, among others, the Yarmouk River and flows after 200 km into the Dead Sea (Figure 4). The surface area of the basin is around 18.103 km<sup>2</sup> (Comair, McKinney, & Siegel, 2012).

Apart from the surface waters, several groundwater aquifers drain into the Jordan River. It is important to mention, as often overlooked, that the boundaries of the groundwater catchment and surface water catchments differ from each other, as the headwaters of the Jordan River are almost entirely fed by groundwater from outside the surface water catchment (Messerschmidt and Selby, 2015)

This research focuses on the lower part of the Jordan River Basin. The river and its tributaries are illustrated in Figure 5. Despite its importance, the lower part of the Jordan River Basin has suffered from years of neglect. The water level has dropped dramatically due to dam construction by Syria, Jordan and Israel and usage of water for irrigation. The lower part of the Jordan River is seriously polluted from discharge of saline water, untreated wastewater and other contaminants (de Man, 2016).

The groundwater flows from the West Bank aquifers would, under natural circumstances, contribute over 300 MCM per year to the lower part of the Jordan River (Oslo II/Civil Affairs, 1995, Schedule 10). In addition, also under natural conditions, around 470 MCM per year would flow from the Yarmouk into the Jordan (Kool, 2016; UN-ESCWA & BGR, 2013). Together with additional inflow from the Zarqa River and nine other streams in the East Bank, 600 MCM per year (Venot,

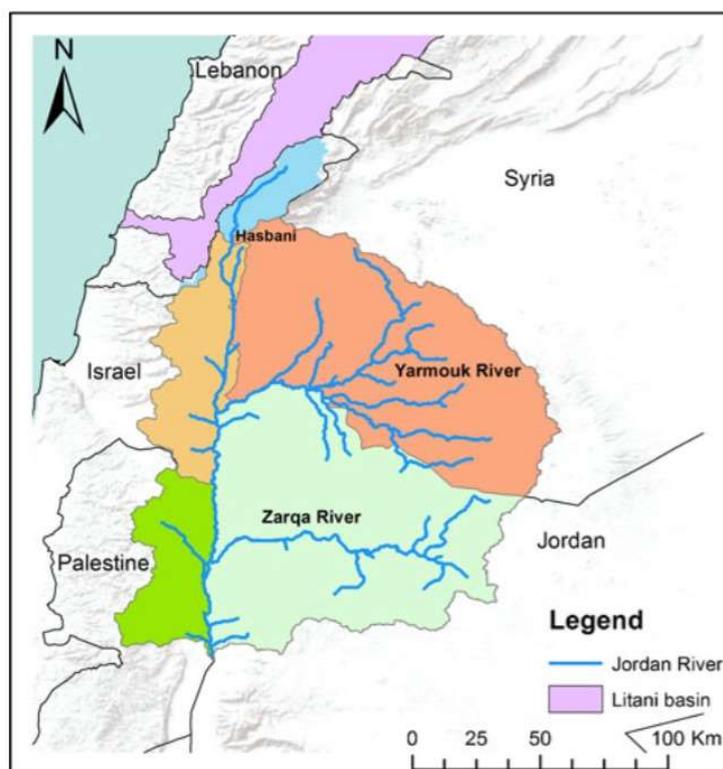


Figure 4: The Jordan River Basin. Source: Comair et al. (2012).

Molle, & Courcier, 2008) would flow from the Sea of Galilee into the lower part of the Jordan River and a total of 1200-1300 MCM per year would flow from the lower part of the Jordan River into the Dead Sea (Kool, 2016, p. xv).

Since the 1950s, Israel, Syria and Jordan have increasingly diverted water from the rivers for domestic water supply and development of their agricultural sectors. The total water usage of the Jordan basin surface and groundwater is subject to some uncertainty (Messerschmidt & Selby, 2015).

According to UN-ESCWA and BGR (2013), Lebanon uses 9-10 MCM per year from the Jordan Basin. The total Syrian water use including groundwater is 453 MCM per year, of which around 200 MCM is taken from the Yarmouk catchment area that would otherwise flow into the Jordan River (UN-ESCWA & BGR, 2013, p. 197).

The Palestinians in the West Bank use around 45 MCM per year (PWA, 2014: 8ff), an amount equal to what the settlers use: 44.8 mcm/y (B'Tselem, 2011, p. 37). Kool (2016) mentions that in the lower part of the Jordan River basin, 34 MCM per year are supplied to the Palestinians and 48 MCM per year to the Israeli settlements. The amount used by Israeli settlers in the Golan Heights is unknown.

Jordan uses around 290 MCM per year (UN-ESCWA & BGR, 2013). Kool (2016) estimates the water usage from the Jordan River basin in Jordan at 269 MCM per year, including 60 MCM which is transported through the King Abdullah Canal to Amman.

The estimated total Israeli water usage ranges from 220 MCM per year (Kool, 2016, p. 46) from the lower part of the Jordan River to 800 MCM and 930 MCM per year for the total Israeli water usage (Zeitoun et al. 2012, p. 30 and HSI, 2005, p. 18, respectively, both cited in Messerschmid, 2015).

Different sources provide varying estimates for the water diverted into the Israeli National Water Carrier from the Sea of Galilee (both cited in Messerschmid and Selby, 2015): EcoPeace Middle East (formerly known as Friends of the Earth Middle East) estimates the flow at 196 MCM per year (FoEME, 2011, p. 30), while according to the Hydrological Service of Israel (HSI), as much as 523 MCM per year is transferred out of the Jordan Basin (HSI, 2008a, p. 408). The total abstraction by Israel from Sea of Galilee and the upper Jordan River is believed to be as much as 723 MCM per year (HSI, 2006, p. 353 – average abstraction during 1983/84-1995/96, quoted in Messerschmid and Selby, 2015), not including groundwater abstractions from the Lower Galilee and Eastern Galilee aquifers and from the North-eastern and Eastern aquifers within the Jordan Basin.

As a consequence of these abstractions, of over 600 MCM per year natural outflows from the Sea of Galilee, 22 MCM remains at the point where the Saline Water Carrier enters the rivers (Kool, 2016, p. 49). Today, the amount of water reaching the Dead Sea each year amounts to around 70–100 MCM/year, or even less (Kool, 2016, p. 7), which originates almost entirely from the inflow of the Yarmouk River

and which currently varies between 35 and 225 MCM per year (UN-ESCWA & BGR, 2013).

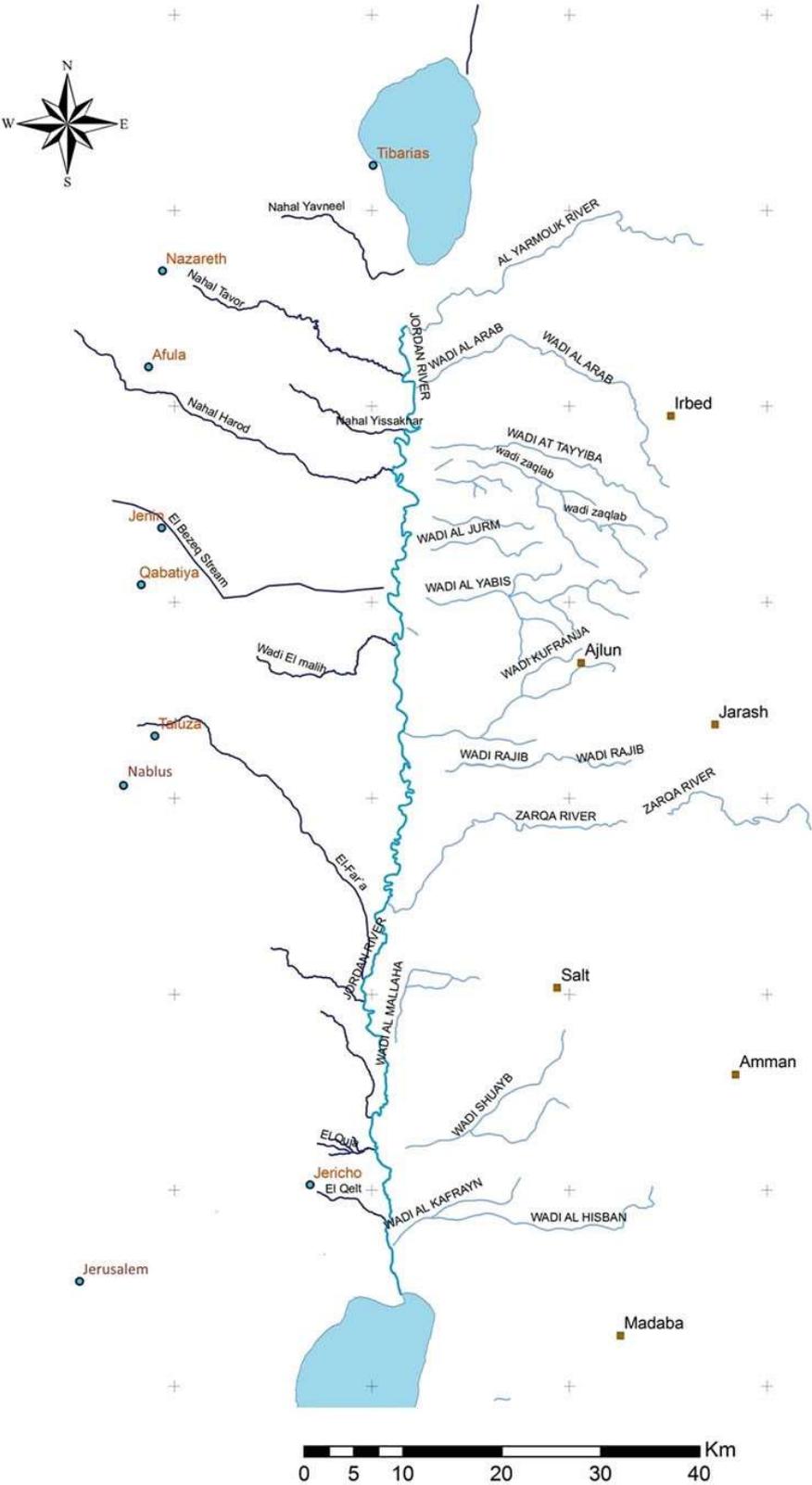


Figure 5: Lower part of the Jordan River and main tributaries. Source: Kool (2016, p. 11).

The current low flow levels and deteriorated water quality of the lower part of the Jordan River have severe impacts on the area's unique ecosystem and on the approximately 500 million migratory birds that migrate through the Jordan basin twice a year. The Dead Sea, which relies on the lower part of the Jordan River as its primary water source, is reaching a critical point of irreversible damage (FoEME, 2014; Tahal Group & Geological Survey of Israel, 2010).

### **3.3 Socio-economic situation related to the river basin<sup>13</sup>**

The native inhabitants of the Jordan Valley in the early 19th century were known as Al Ghawarna or Ghorani (meaning people of Al Ghor), and were involved in mixed farms that covered crop and livestock production systems. Semi-nomadic Bedouins also lived in the Lower Jordan Valley and used the lands as grazing ground for their sheep and goats during the winter months because of its warm climate and available fodder for their animals. However they moved their flocks up into the hills during the summer to avoid the intense heat. The first Kibbutz<sup>14</sup> was established in 1910; called Degania, it was built on the mouth of the lower part of the Jordan River at the exit of the Sea of Galilee (FoEME, 2014).

From the 1920 onwards, Jewish immigrants started to develop unused swampy land in the Jordan Valley and the nearby Jezreel Valley. They introduced irrigated farming, using a collective form of organisation inspired by the earlier collective socialistic systems elsewhere. In the Kibbutz model, the means of production (land, labour and capital) were socialised and the members shared in the responsibilities to secure possible subsistence, social and security needs in an antagonistic political and economic environment (FoEME, 2014).

Today, agriculture still dominates the socio-economic landscape of the study area, although there is significant inequality between the riparian states. The Israeli part of the basin is economically the most advanced zone, with a living standard comparable to some European countries. The World Bank classified Jordan as an 'upper middle income country', however with significant economic inequalities: in the Jordan Valley there are a small group of wealthy agricultural entrepreneurs, next to a large group of agricultural labourers who are close to the poverty line of 32.6 Jordanian Dinar per person per month. The Palestinian part of the basin, excluding the Israeli settlements, have a standard of living comparable to that of Jordan, lives under occupation and is subject to stringent Israeli traveling regulations (FoEME, 2014).

The importance of agriculture is expected to decrease in the valley for all three riparian states in the future. In Israel, the proportion of the population engaged in

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<sup>13</sup> This section is primarily based on the Baseline Report to the Regional NGO Master Plan for the Lower Jordan River Basin FoEME (2014). It is unique in its joint fact-finding, involving stakeholders from all riparians to the lower part of the Jordan River. The Regional NGO Master Plan is discussed in further depth at a later point in this report.

<sup>14</sup> A Kibbutz is a collective community in Israel, traditionally based on agriculture.

the agricultural sector had already started to decline in the 1970s when the industrial and service sectors achieved higher growth levels compared to the agricultural sector. Furthermore, a higher priority was given to agricultural development in regions where tensions between different water users were less prominent (e.g. the Negev Region). For Jordan and Palestine, this shift from agriculture to the service sector started during the 1990s and continues today.

Table 1 below provides an overview of some socio-economic parameters in the basin. These figures have been obtained from literature, from the Jordanian Department of Statistics, the Central Bureau of Statistics in Israel and the Palestinian Central Bureau of Statistics, supported by data from [indexmundi.com](http://indexmundi.com). This data reflects the status in the wider region around the lower part of the Jordan River Basin; the FoEME study (2014) did not include specific field data surveys in the Jordan Valley itself, and the data below should therefore be considered indicatively (FoEME, 2014).

Within the study area, the size of households in Jordan and Palestine are similar, about 6 persons per household, which is comparable to the wider Middle East region, while Israel has about 3.3 persons per household (FoEME, 2014).

The differences in expenditures show a slightly different pattern. Household and per capita expenditures in Jordan are, respectively, 701 JD and 117 JD (EUR 728 and EUR 121). In Palestine these are about 50% higher: 1058 JD and 188 JD (EURO 1098 and EURO 195). In Israel, the household and per capita expenditures are about 5 times higher: 14,460 NIS and 4382 NIS (EUR 3051 and EUR 924). However, the Consumer Price Index for Jordan is about 65.55 against 92.24 for Israel and Palestine, meaning that Jordanians can buy about 40% more consumption goods for their money than the Israelis and Palestinians (FoEME, 2014).

Unemployment rates (percentages of the labour force without a job) are relatively high for the region, with the exception of the male unemployment rate in Israel, which was 5.6% in 2011. Among the female population, unemployment is, again, highest in Palestine (25.3%), followed by Jordan (21.2%) and Israel (20.2%). Among the male population, Palestine has the highest unemployment rate at 17.3%, followed by Jordan with 11% (FoEME, 2014).

In all three countries, there are considerable income disparities between the upper and lower strata of the societies. In the three riparian states, a substantial proportion of the households are living below the poverty line: Jordan 12.5%, Palestine 23.7% and Israel 22.5%. It should be noted that the three countries apply different poverty definitions, and that in absolute income terms the poverty in Palestine is much more severe than in Israel. Nevertheless, the Gini Coefficient of Jordan and Israel confirms that large income disparities exist between the top 20% and the bottom 20% of the income earners, and the expectation is that a similar pattern can be observed in Palestine (FoEME, 2014).

Table 1: Socio-economic statistics in Jordan, Israel and Palestine (JD = Jordanian Dinar, NIS = Israeli Shekel, 1 JD ≈ 5 NIS). Source: FoEME (2014, pp. 149–152).

Socio-economic parameter	Jordan	Israel	Palestine
Average household size	6 pers	3.3 pers	6 pers
Average monthly household expenditures	701 JD	14460 NIS	1058.4 JD
Average monthly per capita expenditures	117 JD	4382 NIS	188.1 JD
Average monthly income per household	704 JD	14629 NIS	1100 JD
Illiteracy rate for persons aged >15 years			4.1%
Men	5%	1.5%	
Women	12.6%	4.1%	
Gender ratio (= males / females in %)	106.4%	102.7%	103.2%
Labour force participation >15 years			
Men	63.4%	68.6%	69.1%
Women	17.8%	61.3%	17.4%
Poverty rates	12.5%	22.5%	23.7%
Unemployment > 15 years			
Men	11%	5.6%	17.3%
Women	21.2%	20.2%	25.3%
Employment per sector (%)			
Agriculture, fishing, forestry	20%	1.6%	33.3%
Mining, quarrying and manufacturing	9.5%	11.5%	7.6%
Construction	15%	5%	6.2%
Commerce, restaurants, hotels	20%	19.5%	13.3%
Transportation	6.5%	3.8%	5.1%
Services, others	29%	58.6%	34.5%
Basic education (%)			
Men	51.3%	100%	
Women	48.7%	97.7%	
Population growth	2.2%	1.87%	<0

Employment rates per economic sector show that Palestine has a relative high portion of people working in the agricultural sector (33.3%), while in Jordan this is estimated to be around 20%, and only 1.6% of the Israeli working force is employed in the agricultural sector. Although detailed information on agricultural employment rates in the Lower Jordan Valley are not available, it may be expected that agriculture is more important in that region than at national levels in each riparian state (FoEME, 2014).

A different pattern can be seen in the construction sector, with 15% for Jordan and 6.2% for Palestine, against 5% in Israel. Sectors such as mining, manufacturing, commerce, restaurants and hotels and transportation employ percentages which are more or less similar for the three countries. Finally, the Service sector, including research and government, is best developed in Israel, employing 58.6% of the work force, against 39.8% in Jordan and 34.5% in Palestine. These differences may explain to some extent the income differences in the three countries, since the agriculture and construction sectors generate generally lower wages than the service sector (FoEME, 2014).

The gender ratio of the populations (number of males compared to number of females) is highest in Jordan (106.4%), and similar in Israel and Palestine (102.7% and 103.2%). Illiteracy rates in all three countries are relatively low: below 5%. Labour force participation for the male population is also similar in all three countries: 63.4% in Jordan, 68.6% in Israel and 69.1% in Palestine. Differences are larger for the female population: 17.8% and 17.4% of women participate in the labour market in Jordan and Palestine, while 61.3% of the adult female work force participates in the labour market in Israel (FoEME, 2014).

The gender issue in Jordan is influenced both by national socio-economic conditions as well as by tribal traditions. In some rural areas, local Shari'a courts have some jurisdiction over matters related to marriage, divorce and inheritance. The Jordanian National Commission for Women has established a network called Sham'a ('candle'), which aims to combat violence against women by coordinating the efforts of both governmental and non-governmental organisations. In 2009, the Commission established a Women's Complaints Office to receive complaints of discrimination and violence against women in private and public life and to raise awareness of these issues and provide legal aid, among other services. This work is carried out in collaboration with governmental and non-governmental organisations. There are also several NGOs that provide services to women, and a national register on violence against women has been established. In 2007, the Ministry of Social Development created the Family Reconciliation Centre for victims of domestic violence (FoEME, 2014).

In 2012, Israel ranked eleventh out of 59 developed nations for participation of women in the workplace. In the same survey, Israel was ranked 24th for the proportion of women serving in executive positions. Israeli law prohibits discrimination based on gender in employment and wages; nonetheless, there are still complaints of significant wage disparities between men and women in Israel, as well as significant social disparities particularly in orthodox communities. On

the other hand, Israel was the third country in the world to be led by a female prime minister, Golda Meir, and in 2010, women's parliamentary representation in Israel was 18% (FoEME, 2014).

In Palestine, the position of women is positive relative to most other Arab countries, though external conditions such as limited economic perspectives and traveling restrictions imposed by the Israeli authorities are serious constraints for improving the position of women in the Palestinian society. In addition, Palestinian women still face some discrimination within Palestinian society itself. Despite high levels of education and activity within civil society, women remain underrepresented in public life, in part due to the societal norms that place pressure on women to conform to traditional gender roles. It has been difficult for Palestinian women during the previous decades to have their voices heard within a society that struggles with the occupation, leaving justice for women as a secondary issue on the national agenda. However, the 2010 UNFPA report mentions that there is a gradual improvement in gender roles and relations, leading towards greater equality in Palestine (FoEME, 2014). Al Monitor reported that female representation in Palestinian parliament was 13% in 2015, and the General Union of Palestinian Women is in discussions to increase the female quota to 20% (Al-Ghoul, 2015).

### **3.4 Interdependency**

As a resource for freshwater, the Jordan River basin is vital for most of the population of Palestine, Israel and Jordan, and to a lesser extent in Lebanon and Syria who are able to utilise water from other domestic sources. Hence, these parties depend on shared water resources from the same river basin, and some agreement for joint or cooperative management is essential. Sharing water resources involves the issues of water use, water rights, distribution of amounts and water quality.

The riparian rights to the Jordan River are shared by five different parties: Lebanon, Syria, Jordan, Israel and Palestine; however, Israel as the occupying authority has refused to give up any of the water resources to the Palestinian National Authority (Daibes-Murad, 2005).

Water is closely interlinked with energy and food security in the Jordan River basin. Energy is needed to make water available at nearly all stages from extraction to delivery to end users. Desalination and wastewater re-use, both of which are highly energy intensive, are key sources of water in the region (El Hajj, Farajalla, Terpstra, & Jägerskog, 2017). Energy is also needed in food production at different stages starting from pumping requirements in irrigation, to transportation of produce and finally refrigeration (El Hajj et al., 2017). The intricate interdependency between water and food in the Jordan basin is illustrated by the intention of the Palestinian Authority (PA) to expand and develop the agricultural sector in the West Bank to decrease their dependency on the Israeli labour market,

while Israel has prevented the further development of irrigation of the West Bank (Shapland, 1997). Jordan also wishes to expand its agricultural sector so as to be able to achieve food security and create jobs (Shapland, 1997). In addition, countries such as Lebanon and Jordan are hosting large numbers of refugees resulting in further pressure and demand on their already vulnerable resources (Khamis, 2015; Lebanese Ministry of Environment, 2014). This illustrates the importance of water for economic development, stability and peace in the region.

### **3.5 Chapter conclusion**

This chapter discussed key basin context of the lower part of the Jordan Basin that may affect cooperation among riparian states. The socio-economic context is diverse and complex, and issues related to gender, youth and job creation within a broader setting of socio-economic development are relevant for understanding the context of water cooperation. The political context that arises from the history of colonialism, state formation (leading to the establishment of the Jewish state) and conflict with neighbouring countries directly affects current tensions over water cooperation. Ensuring adequate quantities and quality of water for all riparians is a key challenge in the basin given the relatively small volume of water available, the large population and a situation of hydrohegemony, inequitable use and denial of other riparians' rights in the basin. The Jordan River flow has been significantly reduced over the past decades as a result of increased exploitation of water resources in the basin. The rapid decline of the Dead Sea water level is an indicator that the region's ecosystem is at risk (UN-ESCWA & BGR, 2013). In addition, it is important to also note the socio-economic disparity among the riparian countries (where Israel has a much higher per capita income compared to the other two states), which may potentially affect the relationship among the countries.

## 4. Transboundary water cooperation over the lower part of the Jordan River

Within the lower part of the Jordan River Basin, there have been several initiatives and attempts, either by governmental or non-governmental parties, to cooperate over water, use and the rehabilitation of the Jordan River. These efforts are also closely related to history and regional political relationships. Currently, there are several cooperation initiatives at the Track I (government to government) level, and the Track II and III levels (led by non-state actors) taking place within the region.

As an example of trilateral cooperation, in 1996, the Palestinian Liberation Organisation (PLO), Israel and Jordan signed the trilateral Declaration on Principles for Cooperation on Water-Related Matters and New and Additional Water Resources (hereafter 'the Declaration on Cooperation') which resulted from the Multilateral Working Group on Water Resources of the Middle East Peace Process, a program partly sponsored and facilitated by the Government of Norway. This declaration mainly outlines principles for potential future cooperation projects, but does not give details on specific measures. It does, however, specify that prior bilateral agreements remain untouched by it and has thus no effect on the Israeli-Palestinian cooperation over water as outlined in the Oslo Accords (Declaration on Cooperation, 1996).

In the absence of notable multilateral Track I cooperation within the basin, the civil society is currently playing a key role in advancing transboundary water cooperation projects. An example of a successful program initiated by civil society actors is the Good Water Neighbors initiative by the NGO EcoPeace Middle East which is active in Israel, Jordan and Palestine. Here, communities on either side of the border, often relying on the same water resources, cooperate on the local level and create more inclusive approaches to resource management than currently applied on the government level (Ide & Fröhlich, 2015).

The establishment of the Middle East Desalination Research Centre (MEDRC) is a direct result of this multilateral cooperation (MENA NWC, 2016; RB2, 2017) It is an international research and training institute that consists of executive boards from Oman, United States, Jordan, Palestine, Israel, Korea, Japan, Spain, Qatar, Netherlands and Sweden. MEDRC sponsored 169 projects, and serves as a regional hub for desalination training, as well as supporting MSc and PhD research in the area of desalination (MEDRC, 2017).

The Arava Institute of Environmental Studies (AIES) is an environmental and research program in the Middle East, with student body consisting of Jordanians, Palestinians, Israelis and other students from the rest of the world (Arava Institute, 2013a). Considering the fact many Palestinian universities do not take students from Israel (PA10, 2017), arrangement in Arava promotes study and research that can promote potential future cooperation. One of the research areas includes effective stream restoration for the region's transboundary streams, through

promoting the concept of transboundary watershed management (Arava Institute, 2013b).

Recognising the existence of many more cooperation initiatives in the region, this report focuses on five distinct action situations and analyses how these and other factors affect transboundary water cooperation involving the different riparians in the Jordan River basin. These action situations include: 1) cooperation between Israel and Palestine through the Joint Water Committee (JWC), 2) cooperation between Jordan and Israel through the JWC 3) the Red Sea – Dead Sea project, 4) the Geneva Initiative, and 5) the regional NGO Master Plan by EcoPeace. This selection is based on the principles of grounded theory, originating from the processes and issues that were repeatedly referred to by a large number of interviewees when asked about regional transboundary cooperation on water.

## Track I cooperation

### Cooperation between Israel and Palestine

With the Six-Day War in 1967, Israel established control over the West Bank and its water resources. Nowadays, the official cooperation over water between Israel and Palestine is almost exclusively based on the Israeli-Palestinian Interim Agreement on the West Bank and the Gaza Strip (hereafter referred to as 'Oslo II') signed by Israel and the PLO in 1995 that was one of the key outcomes of the Oslo Peace Process (Oslo II, 1995). Oslo II/ article 40 established the JWC, tasked with the coordination of water and sewage projects in the West Bank and comprised of both Israelis and Palestinians. It also included a number of specific provisions and re-allocations of water quantities from the different groundwater aquifers. While Israel generally acknowledged the Palestinian right to water, no further details were given at this point and specifics deferred to final status negotiations (Oslo II/Civil Affairs, 1995, Art. 40).

### Cooperation between Jordan and Israel

Israel and Jordan signed a peace treaty in 1994 (Treaty of Peace between The Hashemite Kingdom of Jordan and The State of Israel, 1994, hereafter referred to as the 'Peace Treaty') Water is one of the key factors discussed in the agreement and Annex II of the treaty provides detailed agreements related to water allocation and usage from the Jordan and the Yarmouk River (Peace Treaty, 1994, Ann. II). Israel and Jordan cooperate on three main issues: 1) Water supply to Jordan, 2) Rehabilitation of the Jordan River, and 3) the Red Sea-Dead Sea Conveyance Project.

### Red Sea-Dead Sea project

The Red Sea-Dead Sea Conveyance Project is a cooperative initiative of the Governments of Jordan and Israel and the PA. The project involves connecting the Red Sea to the Dead Sea and allowing water to flow into the Dead Sea, and building

a desalination plant in Aqaba in Jordan and disposing the brine from its operation into the Dead Sea. The World Bank coordinated the feasibility study for this project and completed its final report in 2014 (Coyne et Bellier, 2014). Following the completion of its report, the government of Jordan and Israel agreed to go ahead with the implementation of the initial phase of the project (Al-Khalidi, 2015). The entire project is estimated to cost USD 10 billion (Coyne et Bellier, 2014). In an initial phase, both governments have agreed to start the project by building a desalination plant in Aqaba in Jordanian territory, and swapping water with Israel in the northern part of the country where Jordan faces water stress (Ministry of Water and Irrigation, 2014).

### Track II/III cooperation

#### Regional NGO Master Plan

EcoPeace Middle East facilitated the process of developing the Regional NGO Master Plan for Sustainable Development in the Jordan Valley (Royal HaskoningDHV & EcoPeace, 2015). It was written with the assumption of a two state solution, and engaged stakeholders from Israel, Jordan and Palestine. The plan was developed around seven strategic objectives: 1) pollution control, 2) sustainable water management and river rehabilitation, 3) sustainable agriculture, 4) Jordan River basin governance, 5) ecological rehabilitation, 6) sustainable tourism and cultural heritage development and 7) urban and infrastructure development (EcoPeace, n.d.b). The regional NGO Master Plan includes 127 interventions involving all three countries (Royal HaskoningDHV & EcoPeace, 2015). One of the distinct features of the plan is its proposition of specific amounts of environmental flow for the restoration of the Jordan River (Royal HaskoningDHV & EcoPeace, 2015).

#### Geneva Initiative

The Geneva Initiative is a broader attempt by *civil society* to tackle the issue of the lack of final status negotiations between Israel and Palestine. Since 2001, Israeli and Palestinian representatives have been working together as private citizens to draft an unofficial model agreement that touches upon a number of important issues that had been deferred to a final status agreement (Schiff, 2010). More recently, this has also included transboundary water management (Geneva Initiative, 2009a).

## 5. Action Situation 1: Cooperation between Israel and Palestine

### 5.1 Action situation, outputs and outcomes

The only formal bilateral cooperation between Israel and Palestine over water resources takes place within the JWC and only concerns the West Bank. This committee was established as by-product of article 40 as a joint coordination mechanism in Oslo II (Oslo II, 1995). The agreement was intended to be an interim agreement for five years but a final agreement has still not been reached.

The main function of the JWC is to coordinate and manage the water resources in the West Bank. This management involves the approving, licensing and drilling of new wells, all development of water resources and systems, and the exploration of additional water sources (Oslo II/Civil Affairs, 1995, Schedule 8). The JWC has four sub-committees on water, wastewater, hydrology and pricing, respectively (IWA, 2012b). Both Israelis and Palestinians are required to submit their projects on water infrastructure in the West Bank to the JWC for approval, and both parties are represented in the JWC in equal number, taking decisions based on consensus (Oslo II, 1995). This procedure, however, is regularly criticised as it allows for Israel to have influence over projects in the Palestinian West Bank, but does not grant the PA the same rights with regards to the withdrawal of water from shared resources within Israel (Selby, 2003; Zeitoun, 2013).

The JWC had met continuously since 1995, being one of the few joint institutions to remain functional throughout the 2<sup>nd</sup> Intifada (Selby, 2003), until it stopped meeting in 2010 after reaching what Selby (2003, p. 18) calls a 'stalemate within the JWC' that resulted from the Palestinian Water Authority (PWA) taking a more confrontational position towards Israeli project applications related to settlements. This situation, described in interviews as a 'deadlock' (PA4, 2016) or 'paralysis' (PA12, 2016), is due to the Palestinian leadership's decision to discontinue participation in the JWC. The reasoning behind this decision was summarised by PA12:

'[T]he PA sees the JWC as a platform where they are being blackmailed into approving settlement projects. Either projects within the settlements or to integrate settlements into the service. So the PA rejects this because it is sort of giving legitimacy to the settlements, acknowledges them and their right to exist. [...] I think it's because the JWC has proven to be an insufficient platform for technical coordination.' (PA12, 2016)

Similarly, the PWA's Transboundary Water Strategy states that the 'JWC has not fulfilled its role of providing an effective collaborative governance framework for joint resource management and investment' and calls for it to be replaced by a new cooperation mechanism (PWA, 2013b, p. 9).

The Israeli State Comptroller offered its critical opinion on the Israeli Water Authority (IWA) and the Israeli head of the Coordinator of Government Activities in the Territories (COGAT)<sup>15</sup> for not being able to resolve disputes within the JWC and its failure for not being able to resolve disputes with the Palestinian authority, resulting in serious water pollution in some of the major transboundary water bodies (Shapira, 2017). The Comptroller further indicated that during its audit to Israeli authority, COGAT initiated a meeting with the Palestinian authority, which led to the signing of an agreement to renew the JWC activities in 2017. This agreement was indeed signed on 15 January 2017 by COGAT and the Palestinian Minister of Civil Affairs. The agreement was reported to aim for the JWC to be fully operational again by summer 2017. It is the latest of four cooperation agreements between the Palestinians and Israelis, with the previous ones focusing on electricity, mail and phone services (Rasgon, Lazaroff, & Udasin, 2017; Times of Israel, 2017; United Nations, 2017).

While the agreement itself has not been made public, newspaper articles surrounding the announcement provide some insights. The Jerusalem Post reports that the new arrangement gives greater autonomy to the PWA, allowing the implementation of nearly 100 projects that were previously lacking their JWC permit. According to the new agreement, small-scale projects within communities in Area C do not need JWC approval anymore. The development of new water resources such as the construction of new wells or wastewater treatment plans, however, still requires prior approval (Rasgon et al., 2017). Selby (2017) noted that the same new rules apply to both Palestinian and Israeli projects, meaning that most infrastructure works related to Israeli settlements do not require a JWC permit anymore either. He criticised this for reversing the Palestinian veto right over most water-related settlement projects (Selby, 2017).

### Outputs and outcomes

While on paper, the JWC appears to be a fair platform where Israelis and Palestinians are treated as equals, numerous studies on the role of the JWC in regional water management have concluded that the Committee is sustaining the power asymmetry between Israelis and Palestinians rather than allowing for equal participation (such as: Rouyer, 1999; Selby, 2003, 2007; Zeitoun, 2013). In the account of one Palestinian interviewee, the cooperation between both parties via the JWC is 'extremely close [and] very effective' in the sense that it has a great impact on the Palestinian water sector and its policies as outlined further below, but also 'absolutely asymmetrical, skewed [and] unfair' (PA8, 2016).

Records of the JWC meetings between 1995 and 2008 provided to Selby (2013) by the PWA demonstrate a total number of 602 Palestinian and 135 Israeli projects

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<sup>15</sup> COGAT is an Israeli government unit subordinate to the Minister of Defence, and is responsible for the coordination and liaison with Palestinian Authorities on matters related to the West Bank (COGAT, 2017).

submitted for approval over the record period. As Palestinian applications were usually for infrastructure of a smaller capacity than the ones submitted by Israel, the overall additional storage capacity included in all the project proposals is approximately even on both sides. In addition to information on the characteristics of the project applications, Selby also summarises the approval rates for different project types (Table 2), showing that while almost all Israeli projects were approved, the same could be said for only around half of the Palestinian projects. Additionally, the approval of new production wells was highly dependent on the geographic location. While 24 out of 28 project applications for new production wells in the Eastern Basin of the Mountain Aquifer received a permit, none of the seven well projects in the Western Basin were approved. In response, Israel states that the submitted project proposals did not comply with the required standards (Selby, 2013). Furthermore, projects in Area C require a permit by the Israeli Civil Administration<sup>16</sup> and can thus still be stopped by Israeli officials after passing through the JWC.

Table 2: JWC and Civil Administration approval rate in % by project type for the period 1995-2008. Source: Selby (2013).

Project type	Palestinian	Israeli
Wells	30-66 *	100
Water supply network	50-80 (estimate)	100
Wastewater	58 **	96

\* Includes approvals of projects that were submitted before 2008 up to end of 2009.

\*\* Includes approvals up to end of 2011.

While there are discrepancies between Selby (2013) and a report by the World Bank (2009) regarding the number of JWC meetings per year and the number of projects submitted by the PWA (both total number and division into different project types), both documents draw similar conclusions: the approval rates and approval times fundamentally differ between Israeli and Palestinian projects. Israeli projects are approved after an average waiting time of two months. Palestinian projects, if approved, take on average eleven months to obtain permits from the JWC and the Israeli Civil Administration, with much longer waiting times of up to more than ten years documented for new production wells and wastewater treatment plants (Selby, 2013; World Bank, 2009).

Israelis have different views on the situation regarding project approvals. A report published by the IWA in 2009 examining the cooperation between Israel and Palestine indicates that nearly all the submitted projects were approved. Projects that were not approved were the ones that were not in accordance with the Oslo II Agreement, mostly related to the drilling of new wells in Palestinian territory (IWA, 2009). However, the report does not provide specific numbers on

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<sup>16</sup> The Israeli Civil Administration governs all civil matters in those parts of the West Bank that are declared Area C.

unapproved projects. This was echoed by one of the Israeli interviewees who commented that most of the Palestinian JWC projects were approved years ago, but encounter problems with their implementation (IS3, 2016). This information is counteracted by the Israeli State Comptroller report published in 2017, which indicates the JWC has not convened approval of projects for more than five years, criticising inaction by the IWA and COGAT in resolving the situation (Shapira, 2017). The IWA report further indicates that Palestinians have drilled 250 unauthorised wells to extract water, mostly from the Northeastern Aquifer, affecting Israel's capability to withdraw water from this aquifer (IWA, 2009). Israeli interviewees also indicated that Palestinians did not approve some of the projects Israel submitted to the JWC. According to them, these were water projects connected to settlements and to Jerusalem (IS1, 2016; IS3, 2016).

In addition to charging Palestinians for wastewater treatment, Palestinian applications to the JWC for new production wells and therefore for the development of new water resources in the West Bank are often blocked or delayed. This means that the Israeli water company Mekorot continues to be one of the most important water sources for Palestinians. The amount of water bought from Mekorot by the PWA accounts for approximately one third of the total Palestinian water use and has steadily increased with the Palestinian population growth over the past years, from around 40 MCM in 2006 to almost 60 MCM in 2011 (PWA, 2013a).

The Israeli national water company Mekorot sells additional drinking water quantities to the PWA. According to the PWA's 2013 National Water Strategy, 34% of the West Bank's total water supply in 2012 was based on imports from Israel (PWA, 2013a). This practice, used to offset the limitations on the water sector put in place by the JWC, was criticised by a number of interviewees alongside the repeatedly mentioned perception of Israel seeing the Palestinians as a 'market' instead of people with their right to water (PA1, 2016; PA9, 2016; PA10, 2016). This was also pointed out as an incentive for Israel to stall further talks on the re-allocation of water resources, as they currently stand to financially gain from Palestinians being unable to develop additional resources (PA5, 2016).

According to the IWA, Israel provides 70 MCM/year of water to Palestine, which is more than the 23.6 MCM/year stipulated by Oslo II (IWA, 2012b). Some of the Israeli interviewees also commented that Palestinians are receiving more water than agreed in the Oslo Agreement (IS2, 2016).

Another issue of contention is the treatment of waste water. The IWA report indicates that Palestinians generate 52 MCM/year of waste water. However, only four MCM/year are treated in Palestinian wastewater treatment plants and approximately 14 MCM/year are treated in Israeli plants, with the remainder of the waste water polluting ground and surface water in Israel (IWA, 2009). De Man (2016) reported that only 48% of collected wastewater in the West Bank is treated in Palestinian sewage works (secondary treatment). Thirty percent of waste water collected in the West Bank flows into Israel through wadis. Between 48-69% of Palestinians are estimated to be relying on septic tanks/cesspits for their

wastewater disposal, some of which permeates into the ground, which can potentially contaminate groundwater (De Man, 2016).

Palestinian interviewees expressed concern that the high barriers to get large-scale projects in productive areas (mostly Western Aquifer) approved are leading to a focus on small-scale projects with very low efficiency or in relatively unproductive areas, thereby stalling the development of the Palestinian water and sanitation sectors (PA7, 2016; PA12, 2016). This is echoed by Weinthal and Marei (2002, p. 461) who state that the 'Israeli water policy in the occupied territories has limited the development of self-supply of water to the Palestinians while demand has increased' and this has been further confirmed by a number of reports and situation analyses since then (such as: Brooks & Trottier, 2010b; Selby, 2013; World Bank, 2009).

The wastewater sector is particularly affected, leading to the problems outlined by the IWA (2009). None of the eight Palestinian wastewater treatment plants that have been submitted to the JWC for approval since its establishment in 1995 are operational today. According to Selby (2013) three treatment plants that were eventually approved only received their permit after several years of delays and were subsequently held back in their implementation either by Israeli interference or the lack of permits for their connection to the supply network (Selby, 2013). According to de Man (2016), five major waste water treatment plants exist in the West Bank, but only one of them is properly functional. The other plants are either functioning with poor quality, or are unable to handle the current amount of waste water (de Man, 2016).

Both the World Bank (2009) and Israeli State Comptroller report (2017) indicate that the resulting lack of functional wastewater treatment plants causes environmental damage in both the West Bank and Israel as the pollution from untreated wastewater continues (Shapira, 2017; World Bank, 2009). It also allows for the continuation of the Israeli practice of collecting untreated wastewater exiting the West Bank, treating it in Israeli plants and charging the Palestinian authorities for it. An interviewee criticised that this process was not monitored and that there were no means of control for the Palestinians to evaluate how much wastewater was actually treated (PA7, 2016).

Monitoring and enforcement mechanisms were part of the Oslo II agreement in the form of Joint Supervision and Enforcement Teams (JSETs), but, according to Zeitoun, Mirumachi and Warner (2011) and Selby (2013), they were never effective from a practical point of view. While Israelis and Palestinians are represented in JSETs in equal numbers, each side has to provide their own equipment and financial support. Technological Differences in access to technologies where Israel has access to more advanced technology than Palestine, as well as access to financial resources, lead to an imbalance within the Teams. The denial of movement clearances for Palestinian JSET members who have to enter Israeli territories as part of their monitoring and enforcement activities further limits their participation (Selby, 2013; Zeitoun et al., 2011).



# Cooperation between Israel and Palestine

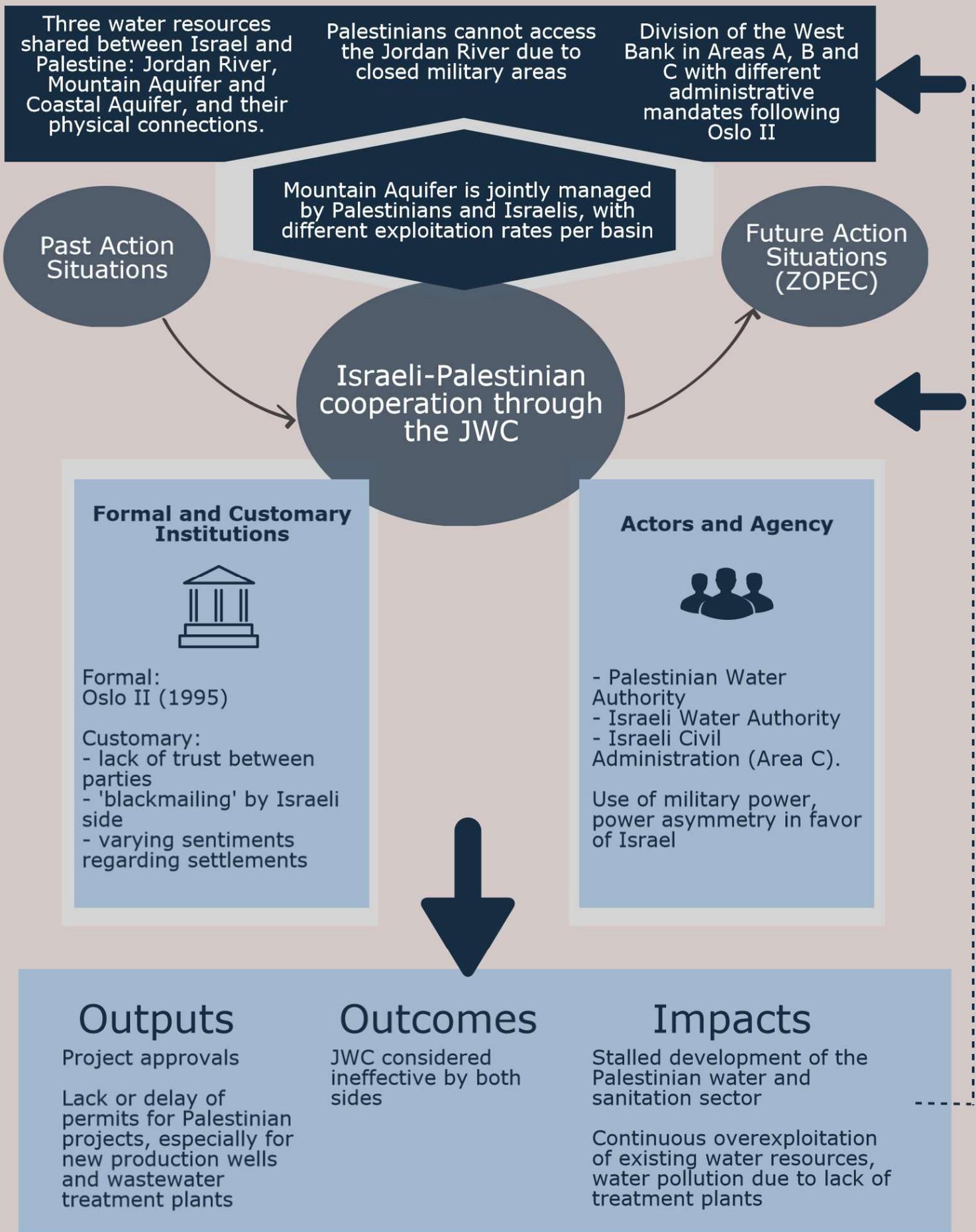


Figure 6: Factors affecting the Palestinian-Israeli cooperation through the JWC.

## 5.2 Factors affecting cooperation

### 5.2.1 Contextual factors

Major water resources shared between Israel and Palestine include: the Jordan River, the Mountain Aquifer (North, North-East and East) and the Coastal Aquifer.

The lower part of the Jordan River<sup>17</sup> forms the border between Israel and Jordan in the north of the basin, and between Palestine and Jordan further south, before it discharges into the Dead Sea. Over the past century, the Jordan River flow into the Dead Sea has decreased sharply with the increase in infrastructural development and water diversion schemes in order to irrigate crops in the Jordan Valley and beyond (details discussed in Chapter 3). Although a large section of the West Bank is located adjacent to the Jordan River, lands and farms located along the western side of the Jordan River have been declared as a restricted military security zone since the war in 1967, preventing Palestinians from accessing the Jordan River water (Haddad, 2007). In addition to the decrease in quantity, the water's quality is increasingly deteriorated as it flows south, caused by anthropogenic influences such as the discharge of untreated wastewater into the river and by the brackish nature of the groundwater due to the prevailing limestone geology (Hillel et al., 2015).

Next to the Jordan River, wadis carry surface water during some parts of the year, often crossing the border between Israel and Palestine. Out of 33 transboundary wadis between Israel and West Bank, 16 originate in the West Bank and flow into Israeli territory (PWA, 2013a).

The Coastal Aquifer underlies the Gaza Strip and the Israeli areas along the Mediterranean coastline. The sustainable yield of the Coastal Aquifer in Gaza is approximately 57 MCM per year, which constitutes 15% of the aquifer's total yield (World Bank, 2009). The pumping within the Gaza Strip of approximately 120 MCM per year in 2008, in connection with similar over-pumping by Israel in the Israeli areas of the Coastal Aquifer has led to severe overexploitation (Mason, Zeitoun, & El Sheikh, 2011). This has caused saltwater intrusion into the aquifer from the Mediterranean Sea, deteriorating the water quality and rendering 90-95% of the Gaza Strip's water resources not suited for drinking purposes according to WHO guidelines (World Bank, 2009).

As in the case of the lower part of the Jordan River, Israel is the upstream user for the Coastal Aquifer as well, as water flows from the hinterland towards the Mediterranean coast, making the Gaza Strip the downstream user (World Bank, 2009).

The Mountain Aquifer is the only shared water resource where Palestine is located upstream and Israel downstream, with almost 90% of the aquifer's recharge area located within the West Bank (Froukh, 2003). One interviewee suggested that this upstream-downstream relation is the reason why Israel is more generally eager to

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<sup>17</sup> The Jordan River south of the Lake Tiberias

engage in transboundary cooperation on the Mountain Aquifer than on other water resources as they are dependent on sustainable resource management upstream (PA12, 2016).

There are three different basins within the Mountain Aquifers: the Eastern Aquifer located adjacent to the Jordan River, the North-Eastern Aquifer located in the North of the West Bank and reaching into Israel, and the Western Aquifer underneath the Western half of the West Bank and a great part of Israel. Figure 7 provides an overview of the aquifer system and its flow into the Jordan River.

Eighty to ninety percent of the aquifer recharge area lies within Palestinian territory, but the majority of its water is extracted by Israel (El-Fadel, Quba'a, El-Hougeiri, Hashisho, & Jamali, 2001). Out of the 340 MCM extracted from the Western Aquifer by Israel each year, only approximately 0.5% stem from wells within the West Bank (MacDonald et al., 2009). Israel developed an extensive water supply system throughout the country (see Chapter 3) including nationalising the water supply (IWA, n.d.). The system mixes all types of water including water that is drawn from Sea of Galilee, water drawn from aquifer, or desalinated water (IS2, 2016). As one of the interviewees commented: 'Israel

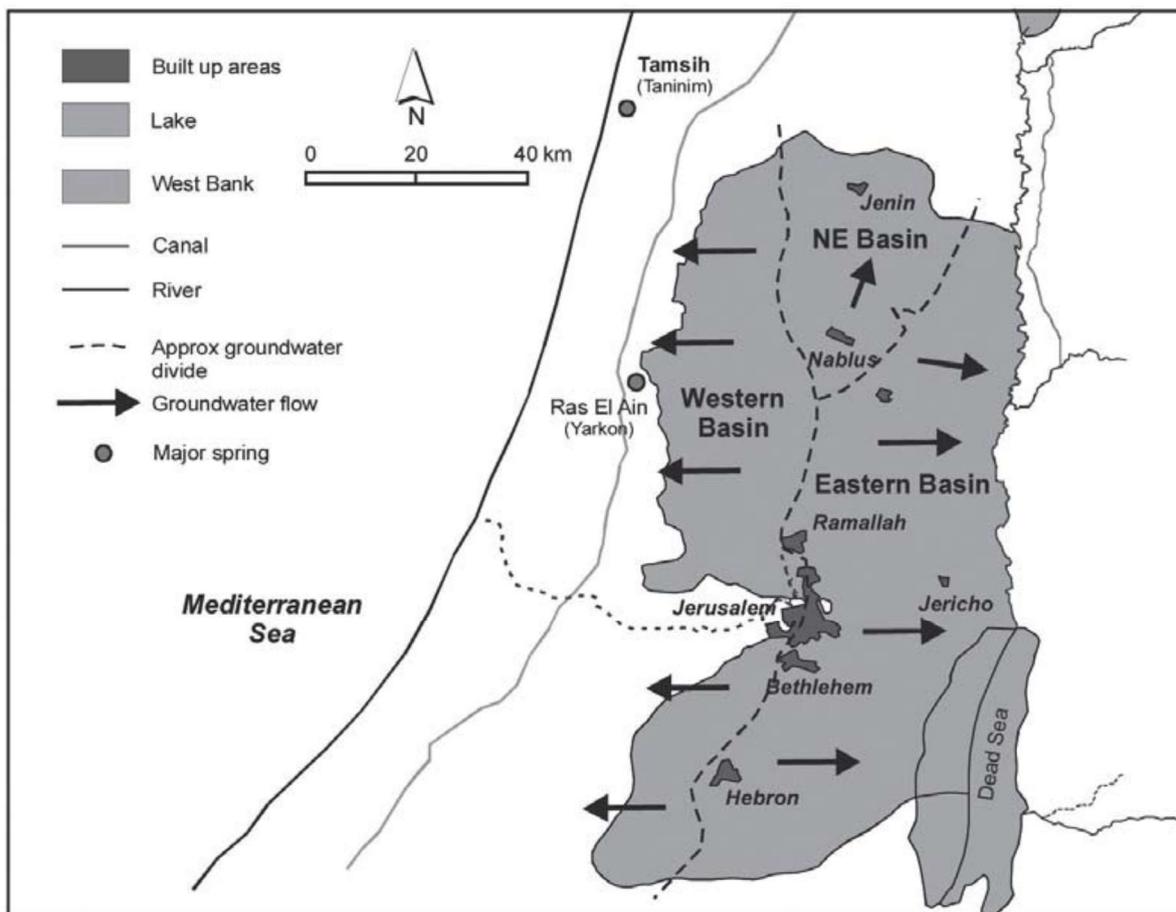


Figure 7: Location of the three basins within the Mountain Aquifer. Source: SUSMAQ (2001).

Table 3: Recharge and extraction rates for the Mountain Aquifer. Numbers taken from Froukh (2003).

	Recharge (MCM/yr)		Extraction (MCM/yr)	
	Inside West Bank	Outside West Bank	Palestine	Israel
Eastern	172	0	54	40
North-Eastern	123	35	42	103
Western	329	37	22	340

nationalised water in 1959, therefore even if you own a well, you do not own the water. You need a license to extract water’ (IS2, 2016).

The Mountain Aquifer additionally consists of an upper and a lower aquifer (Figure 8). The Upper Aquifer (0-400 m deep) is more prone to contamination from the densely populated areas in the mountainous recharge area in the West Bank. The potential for the development of new water resources is greater and economically more viable for the Lower Aquifer. Drilling in the Lower Aquifer is more complicated and requires more advanced technology which has to be imported from Israel or Jordan (MacDonald et al., 2009). One interviewee explained that, as this technology is not available within Palestine and thus would have to be imported from Israel or Jordan, it is not possible to hide the drilling of wells in the Lower Aquifer. Illegal wells, i.e. wells without government permit, are therefore exclusively located in the Upper Aquifer. The equipment to drill these wells, usually between 60 and 150 m deep, is more readily available to Palestinians (PA1, 2016).

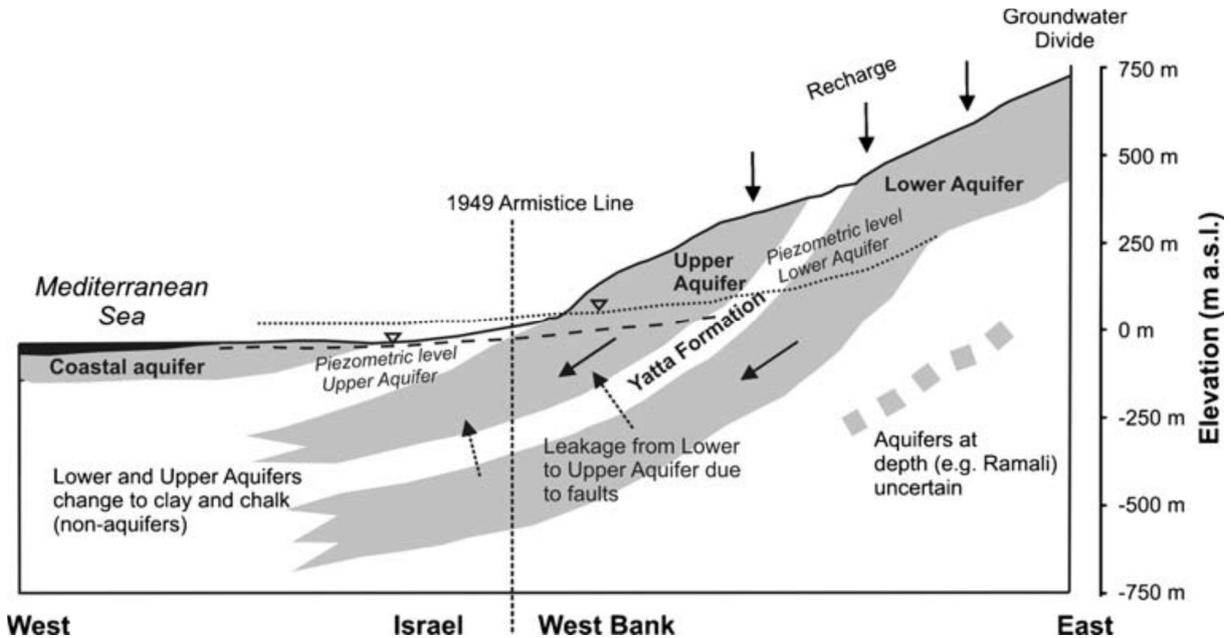


Figure 8: Distinction between Upper and Lower Western Aquifer. Source: MacDonald et al. (2009).

### 5.2.2 Formal institutions

Oslo II is the current defining agreement for any Track I cooperation between Israel and Palestine as well as for the joint management of the water resources in the West Bank. Three aspects that are particularly relevant in this context are 1) the separation of the West Bank in three distinct administrative areas, 2) the water shares allocated in Oslo II and 3) the temporary nature of the agreement.

Articles XI and XVII of the Oslo II agreement define the three administrative areas A, B and C under different jurisdictions. Area A, comprising of ca. 18% of the West Bank, covers the Palestinian cities and is governed by the PA. Area B, ca. 22%, is mainly made up of rural areas. It is jointly administrated by Palestinians and Israelis, where the former are in charge of the civil administration and the latter the military administration. Area C finally covers the remaining ca. 60% of the West Bank and includes Israeli settlements. It is governed by the Israeli authorities, with the PA only in charge of providing basic services such as water to smaller Palestinian communities. Parts of Area C were additionally declared closed military zones, barring Palestinians from entering. One military zone, for instance, stretches along the entire bank of the Jordan River within the West Bank (B'Tselem, 2014). Accordingly, the approval procedure within the JWC varies depending on the area: projects within Area C requiring approval from the Civil Administration in addition to the JWC.

Schedule 10 in Annex III, Appendix I outlines the water resources available from the different basins of the Mountain Aquifer and allocates them to either of the two parties (see Table 4).

The development of 28.6 MCM per year to be supplied to the Palestinian people to meet their immediate needs is outlined in Annex III, Appendix I, Article 40. Thereby, Israel is committed to supply 9.5 MCM/yr (4.5 to the West Bank, 5 to Gaza) and Palestine to supply 19.1 MCM/yr (Oslo II/Civil Affairs, 1995, Art. 40). According to the account of one interviewee, these allocations were 'sort of acceptable' for Palestinians in the 1990s when Oslo II was signed, but are not sufficient anymore due to the growing population (PA9, 2016). There is no allocation of water shares from the Jordan River for Palestine. One Palestinian interviewee suggested that this is due to Israel resisting the discussion of the Jordan River as a transboundary issue (PA4, 2016).

Table 4: Water quantities from the Mountain aquifer allocated to either party in Oslo II/Civil Affairs (Schedule 10). Source: Brooks and Trottier (2010b).

	Israel (MCM)	Palestine (MCM)
Eastern Aquifer	40	54 (+78 to be developed)
North-Eastern Aquifer	103	42
Western Aquifer	340 (within Israel)	22

The establishment and structure of the JWC is based on Oslo II/Civil Affairs, specifically Article 40 on Water and Sewage and Schedule 8 on the responsibilities of the JWC.

Article 40 defines the functions of the JWC as:

- a. Coordinated management of water resources.
- b. Coordinated management of water and sewage systems.
- c. Protection of water resources and water and sewage systems.
- d. Exchange of information relating to water and sewage laws and regulations.
- e. Overseeing the operation of the joint supervision and enforcement mechanism.
- f. Resolution of water and sewage related disputes.
- g. Cooperation in the field of water and sewage, as detailed in this Article.
- h. Arrangements for water supply from one side to the other.
- i. Monitoring systems. The existing regulations concerning measurement and monitoring shall remain in force until the JWC decides otherwise.
- j. Other issues of mutual interest in the sphere of water and sewage.

The JWC is thus in charge of coordinating water management projects and enforcing water policies, but is not tasked with any implementation, operation or maintenance tasks. It issues permits for hydraulic projects in accordance with the water shares allocated to either party within the Oslo II agreement. JWC approval is required for all projects in the West Bank that include licencing and drilling of new wells, an increase in well extraction or the extraction from any other source, or the development of new sources as well as any hydraulic infrastructure. For projects in Area C, approval of the Israel Civil Administration is needed on top of a JWC permit as outlined in Figure 9. Decisions on project applications and other issues within the JWC are to be reached by consensus, where Israelis and Palestinians are represented in equal number (Oslo II).

As mentioned above, the functions of the JWC explicitly include the 'exchange of information relating to water and sewage laws and regulations' (Oslo II/Civil Affairs, 1995, Art. 40/12d). Additionally, both parties agree to cooperate in the exchange of available relevant water and sewage data such as measurements and reports on water availability and extraction<sup>18</sup>.

The JWC is not tasked with the resolution of disputes related to water or sewage. On the settlement of differences and disputes related to the Oslo II agreement itself, e.g. on the JWC's work, Article XXI in the main body of the Oslo II agreement defines that, in the first instance, '[d]isputes arising out of the application or interpretation of this Agreement or any related agreements pertaining to the interim period shall be settled through the [Joint Israeli-Palestinian] Liaison Committee'.

JSETs are established in Schedule 9 to Annex I in order to monitor and enforce the implementation of the water- and sewage-related specifications outlined in Article

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<sup>18</sup> Note that this is not limited to cooperation within the JWC.

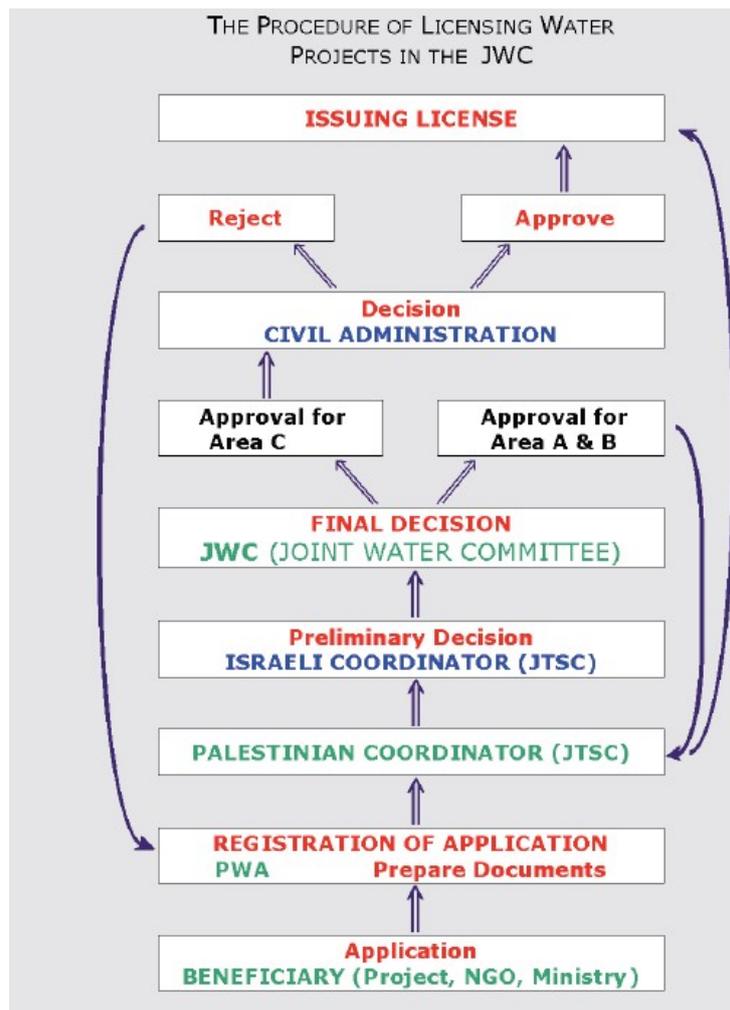


Figure 9: Procedure of licencing water projects in the JWC. Source: Zeitoun (2007).

40 and beyond as well as additional issues as ordered by the JWC. These teams are equally comprised of the same number of Israelis and Palestinians. They are to supervise the activities of both people in the West Bank and to act upon infringement of allocated water shares, environmental pollution and illegal drilling.

Palestinian interviewees reported that Palestinian and Israeli negotiators regularly disagree on the legal basis of negotiations between the two parties. While Palestinians approach the issue of water allocation from the perspective of the International Water Law and the core principles therein<sup>19</sup>, Israel – who did not ratify the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses (Hereafter the 'UN Watercourses Convention') – follows an approach based on needs and future predictions, often based on prior usage (PA4, 2016; PA7, 2016).

As an interim agreement, Oslo II was intended to be valid for five years only and to bridge the transition period until final status negotiations had taken place.

<sup>19</sup> Mostly relating to Articles 5-10 of the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses.

However, the latter never happened and the transition period has continued since 1995 (Selby, 2003). Interviewees indicated that the PLO was only willing to agree to the provisions in Oslo II – regarding both water and numerous other issues – based on the prospect of it being a temporary agreement (PA4, 2016; PA9, 2016).

The temporary nature of the agreement significantly affects the cooperation. The situation also creates ambiguities, as Oslo II, for instance, indicates that Area C will be 'gradually transferred to Palestinian jurisdiction in accordance with this Agreement' (Oslo II, 1995). IS2 (2016) commented on this: 'The structure of the JWC was part of the Oslo agreements, which was structured on a very optimistic scenario that once there was something in place, confidence will build up and then it will be easier to go to the next step,' emphasising the initial expectation of follow-up negotiations and a final status agreement. In addition, the JWC's mandate was designed to be temporary as well and a transitional solution in order to allow Palestinians to eventually take control over their own resources (PA5, 2016).

Referring to the limitation in the current cooperation, one of the interviewees commented that 'politicians gave us a framework [i.e. Oslo II]. We have to work within this limit, we cannot go beyond this framework' (IS9, 2016). Oslo II's temporary nature adds uncertainty, as long-term cooperation strategies can only be based on an interim institution or potential future visions.

Israel's national water law of 1959 (Hereafter the 'Israeli Water Law') establishes a framework for Israel's water resources management. This law defines that all water sources are public property and not connected to land rights (Israeli Water Law, 1959). According to PA8, an Israeli military order of 1967 is still used as a legal basis to control water in Palestine that can be used as a basis for, at times, forceful actions by the Israeli military (PA8, 2016). For example, military order 158 indicates that 'No person is allowed to establish or own or administer a water institution (any construction that is used to extract either surface or subterranean water resources or processing plant) without a new official permit. It is permissible to deny an applicant a permit, revoke or amend a license, without giving any explanation' (Israel Military Order 158, 1967).

The Palestinian Transboundary Water Strategy outlines Palestine's position on regional cooperation. In the 2013 version of the strategy, the PWA acknowledges the importance of regional cooperation over shared water resources, but mostly links it back to issues of Palestinian statehood and rights rather than going into detail on how to engage in cooperation with its neighbours. There are, however, regular references to international water law and the principles of the UN Watercourses Convention (PWA, 2013b). An unpublished draft version of the new Transboundary Water Strategy gives more details on the possible nature of regional cooperation. It highlights the preference for multilateral cooperation over bilateral relations and expresses an interest in exploring shared benefit approaches (PA5, 2016).

A central issue for the Palestinian side is the question of water rights, which the PWA's Transboundary Strategy refers to as 'a key element of the resolution of the

present conflict' (PWA, 2013b, p. 26). While Oslo II prominently includes Israel recognising the Palestinian water rights in the West Bank, it defers further negotiation on details to the permanent status negotiations (Oslo II/Civil Affairs, 1995, Art. 40.1). As the latter have not happened so far, the definition of Palestinian water rights remains unclear and, according to several Palestinian interviewees, a major impediment to effective cooperation (PA4, 2016; PA9, 2016; PA10, 2016).

### *5.2.3 Customary institutions*

In addition to the formal rules regarding the necessity of a JWC permit for hydraulic infrastructure in the West Bank in the Oslo II Agreement, a few informal guidelines have been adopted since the 1990s. As such, a military procedure from the early days of the Israeli occupation has been used as a *modus vivendi* to determine whether a structure requires JWC approval. According to this, pipelines of a diameter greater than 2' or of more than 200m length have to be submitted to the JWC for a permit (Selby, 2013). Palestinians are also allowed to drill up to 200m deep, i.e. only reaching the Upper Aquifer, without JWC approval (PA1, 2016).

With regards to the relationship between Israel and Palestine, Palestinian interviewees repeatedly mentioned severe mistrust between the two parties and emphasised their low expectations of seeing any attempts to build trust any time soon. The recognition of Palestinian rights, both related to water and as a state in general, as well as the treatment as an equal partner were usually brought up as prerequisites for Palestinian trust towards the Israelis (PA9, 2016; PA10, 2016). These prerequisites, and thus trust itself, 'must be built on the ground' according to one interviewee, elaborating that it is up to the Israelis to take a step forward and grant Palestinians the rights and recognition as an equal:

'How can we build trust between two nations? Not only in joint meetings, but also in reality on the ground. I wouldn't be pro-peace if I had to cross five checkpoints to get to an organisational meeting, it just doesn't work.' (PA9, 2016)

Instead, Israel is said to view Palestinians from the perspective of a donor where any concessions made by Israel are framed as charity towards the Palestinian people rather than granting them political rights (PA9, 2016). Another interviewee insinuated that Israelis see Palestinians primarily as a market they can sell drinking water to and charge them for wastewater treatment (PA10, 2016).

The general lack of trust between Israelis and Palestinians was also reflected in comments from Israeli interviewees, expressing their reservations towards Palestinians. One of them stated that '[i]t is difficult for Israeli citizens to see a Palestinian teenager bombing himself or stabbing innocent Israelis in the street, and then for us to go to cooperate. And yet we are still trying to promote and to help. It's not an easy situation' (IS12, 2016). Another Israeli interviewee pointed out that '[t]here are more and more people in Israel who don't want to make

peace' (IS1, 2016). IS12 further commented on working with their Palestinian counterparts:

'It's a professional issue and a psychological issue. We are trying to do our best, but you know the psychology comes in between. I think, first of all, if they have a stable government, ministers we can talk to, to promote things with the same person, not working on different models, then we can maybe trust them. If we set a meeting and they are not showing up, it's hard for us to promote the project.' (IS12, 2016)

IS2 commented on receding confidence in peace and cooperation between Israel and Palestine since the 1990s, saying that '[i]n the 1990s, the atmosphere was, "we haven't tried cooperation and peace", so a "give peace a chance" type of attitude, that's true after the Second Intifada as well. Peace had a chance, and then it failed' (IS2, 2016).

There are, however, instances of good relations and trust between the representatives of either side within the JWC that do not mirror the official relations on the larger scale. Rouyer (1999) mentioned good working relations between Israeli and Palestinian mid-level officials who do not have to follow a political agenda as strictly as their superiors. This point was also echoed by one of the Israeli government interviewees who indicated that cooperation works well at technical levels, and they often call each other to communicate on technical issues (IS8, 2016).

Within Palestinian society, an important psychological factor in the interactions of Palestinians with Israelis on any level is the concept of 'normalisation'. The Palestinian Campaign for the Academic and Cultural Boycott of Israel (PACBI) describes normalisation as 'colonisation of the mind' and defines it more elaborately as 'participation in any project, initiative or activity, in Palestine or internationally, that aims (implicitly or explicitly) to bring together Palestinians (and/or Arabs) and Israelis (people or institutions) without placing as its goal resistance to and exposure of the Israeli occupation and all forms of discrimination and oppression against the Palestinian people' (PACBI, 2011). Normalisation thus refers to any actions that acknowledge the status quo of Israeli occupation instead of challenging it.

In the case of the JWC, this most notably relates to the numerous Israeli settlements throughout the West Bank, as Palestinian representatives refuse to acknowledge any Israeli project that involves settlements as it is seen as giving legitimacy to the Israeli presence in the West Bank. As two Palestinian interviewees stated, while the Palestinian approval of projects would not make any difference on a legal basis as the settlements remain illegal by international law, the psychological component of normalising the Israeli presence in the West Bank remains (PA4, 2016; PA9, 2016). This point was also recognised by an Israeli interviewee who commented that '[t]he Palestinians in the JWC have no reason not to sign projects that are supposed to do better for the environment. That is

the purpose of the committee. But by doing that, they are putting themselves in danger' (IS3, 2016).

Although most signatories to the Geneva Convention relative to the Protection of Civilian Persons in Time of War, 1949 (hereafter, the 'Fourth Geneva Convention') criticise Israeli settlements in Palestinian territory as being illegal (Jewish Virtual Library, n.d.), Israel takes a view that it does not violate international law as it does not agree with the Fourth Geneva Convention (IS1, 2016; IS3, 2016; IS6, 2016; IS12, 2016). Israel's strong justification for having the settlement is both historical and ideological, based on Zionist ideology. One of the Israeli interviewees commented that settlements were deliberately built in Area A and B by people who were not happy with Oslo II, mainly right wing people, who did not recognise Palestine (IS6, 2016). The issue of the settlements and of water connected to settlements have strong historical and cultural background. As one of the Israeli interviewees commented:

'Putting it just as two states, two actors, is greatly simplifying the story here because the situation is much more complex than the two parties. It's much more complex than just the occupation. Had it been just the occupation or just the two parties, it would have been easier. But when you go down here and look out of the window and look down at the Temple Mount, that's not an Israeli-Palestinian situation.' (IS2, 2016)

Responding to the question of settlements, another Israeli interviewee commented that Israeli policy-makers in general 'disagree with Oslo from the beginning, and the right wing saw it as betrayal. They saw it as giving God's land to the Palestinians, so they deliberately [built settlements] to block the opportunity of an agreement' (IS6, 2016).

Referring to Palestinian concerns about being considered as a 'normaliser', another Israeli interviewee commented: 'Palestinians don't want to be seen cooperating, so they stopped coming to the JWC and that's part of the problem now. This is exactly what I am talking about, that the level of cooperation is function of the upper politics' (IS2, 2016).

Several Palestinian interviewees and scholars reported, however, that Israeli negotiators in the JWC adopted an approach that would lead to their projects getting approved anyway: in what interviewees describe as 'blackmailing' (PA7, 2016; PA12, 2016) or 'coercion' (PA4, 2016), Israeli representatives would refuse to approve any Palestinian project until their Palestinian counterparts consented to the latest Israeli settlement projects. This practice first came up towards the end of the 1990s, where minutes of a Joint Technical Committee meeting in February 1998 stated that 'the "Israeli side refused to discuss any new [Palestinian] projects" unless their own applications were approved' (Selby, 2013, p. 17). Since then, linking the Israeli approval of Palestinian projects to the reciprocal PA approval of settlement projects has been a regular occurrence, both explicitly and implicitly (Selby, 2013). This led the PWA to take a stronger stance

against this practice in 2010 when it refused to approve Israeli projects related to settlements and effectively walked out of the JWC.

Some of the Israeli interviewees commented that the political climate in Israel does not allow leaders to take a bold step and work towards peace. If politicians proposed something that does not fall into the support of the extreme right wing, they were under the threat of being attacked (IS6, 2016). One of the interviewees commented that 'Halachah, Jewish Law, says anyone giving Jewish Land to Palestinian deserves to be killed' (IS6, 2016). The same interviewee provided a pessimistic view, indicating that the current cooperation with Palestine was very depressing, and that it was political suicide to be talking about cooperation between Israel and Palestine in the current political climate (IS6, 2016).

Neither Oslo II nor the negotiations within the JWC take any customary rules, international law or legal pluralism in general into account, but only focus on national law. The application of prior laws, e.g. from the Jordanian or British mandate periods, in some parts of the West Bank is neglected, which is criticised by one interviewee as 'the main flaw' in the Israeli-Palestinian cooperation (PWA, 2013a; PA13, 2016).

#### *5.2.4 Actors and agency*

According to two Palestinian interviewees, there is a stark power imbalance between the two parties within the JWC, mirroring the overall imbalances in the Israeli-Palestinian negotiations (PA1, 2016; PA8, 2016). Another interviewee described the relationship between the two parties as 'Palestinians are the servant and [Israelis] are our master' (PA7, 2016). This is echoed by the literature, in which Zeitoun (2013) and Selby (2003) criticised the asymmetrical reality of the power relations between both parties. This refers, for instance, to the Israeli ability to veto Palestinian projects within Palestinian territory while the Palestinians are unable to influence Israeli projects using the same water resources within Israel.

The Palestinian position within the JWC is further weakened by their rather unorganised political system that includes overlapping mandates and a lack of clear leadership. This goes back to factors like the institutional setup of the PA that was prescribed in the Oslo process and has since been criticised as '[lacking] the administrative capacity to govern the Palestinian water sector adequately' (Selby, 2007, p. 211) and the multitude of strategies applied by different Palestinian actors such as the PA, PLO and Fatah (PA1, 2016; PA10, 2016). This was mentioned as the reason for weak financial and technical support for the PWA who is representing the Palestinians in the JWC meetings with their Israeli counterparts (PA10, 2016). According to another interviewee, the Palestinian position is also affected by an apparent lack of communication between politicians and scientists which they say is leading to the Palestinian negotiators not being sufficiently informed. The interviewee, a Palestinian academic, blamed this on politicians not taking researchers seriously if their work does not match the prevailing political agenda (PA1, 2016).

According to one Palestinian interviewee, the PA's capacity to engage with issues in the water sector, both domestic and transboundary in the JWC, is further limited by having to deal with more pressing issues such as the economic crisis, education and the overall political situation. While there is awareness in the ranks of the PA about the importance of water with regards to agricultural production and livelihoods, the authorities are unable to prioritise water management, particularly transboundary issues, over other topics on their agenda (PA10, 2016).

From the Palestinian perspective, the Israeli position is a lot stronger. Since 1967, Israel has been in control of all the shared water resources. Combined with their stronger military and political position, backed by important international allies, they are also in control of the JWC proceedings. This perception was mentioned both by Palestinian interviewees (PA7, 2016; PA10, 2016) and in a number of studies on the power relations in the Israeli-Palestinian conflict at large and within the JWC in particular (such as: Rouyer, 1999; Selby, 2003, 2013; Zeitoun et al., 2011). Additionally, interviewees remarked that the Israeli representatives in the JWC were better organised than the Palestinians and working closely with a variety of scientists in order to gather data they can use in negotiations (PA1, 2016) and that the strong Israeli position on the global level indeed helped their negotiators in the JWC (PA8, 2016; PA10, 2016).

Israel gains an additional layer of control over the development of water infrastructure by the means of the Civil Administration that has to approve all projects in Area C (Selby, 2013). Any of the 12 departments within the Civil Administration – which is, according to the interviewee describing the process, misnamed and should be called Military Administration instead – can reject a project single-handedly, forcing it to be re-submitted to the JWC where it starts the approval progress anew (PA7, 2016).

Viewed as a river basin organisation, the JWC was described as being highly ineffective and inefficient with regards to the coordination and development of hydraulic infrastructure, including very lengthy and demanding bureaucratic processes (Selby, 2013; PA7, 2016; PA12, 2016). One interviewee additionally described it as 'completely paralysed' and 'an insufficient platform for technical coordination' (PA12, 2016).

This frustration is caused by the fact that within the Israeli administration, there are various layers of actors and agencies that have to be involved in the approval process. One of the Israeli interviewees expressed sympathetic views to Palestinian situation, calling it 'extraordinarily frustrating' (IS2, 2016). The interviewee further explained that the main problem was that Palestinians do not have access to the intra-Israeli approval process. Instead, Palestinians need to talk to individual Israeli representatives who, even though they might agree with their Palestinian counterparts, are not necessarily influential enough to get the contest from all different Israeli agencies involved. This also puts the Israeli intermediaries in the position of questioning whether assisting the Palestinians is in line with their personal interests vis-à-vis other domestic agencies and agendas (IS2, 2016).

Dissatisfied with the functionality of the JWC, the PWA withdrew its participation in 2010. Selby (2017) describes the progression of events in 2010 as follows: 'When a newly appointed head of the PWA decided in 2010 that he would no longer be willing to approve settlement projects, Israel responded by refusing to approve Palestinian ones, and the JWC stopped meeting altogether.' Another source indicates that while Shaddad Attali, Head of the PWA from 2008 till 2014, was in fact not the one to take the formal decision to withdraw from the JWC<sup>20</sup>, he did play an important role in the two years leading up to the decision by repeatedly challenging the Israeli narrative on water and approaching the World Bank to conduct an analysis of the Palestinian water sector in 2008 (Environment and Climate in the Middle East, 2016). The resulting World Bank report on the 'Assessment of Restrictions on Palestinian Water Sector Development'<sup>21</sup> alongside a number of similar publications provided the PWA with new reference documents and the momentum to more actively and visibly fight for Palestinian water rights, eventually leading to the PWA's more confrontational position towards the Israeli position in the JWC (Environment and Climate in the Middle East, 2016).

International organisations, donors or civil society actors have no place in the bilateral JWC. However, donors are regularly involved via the projects they are funding on either side. Thus, they sometimes get involved to lobby for their projects to get approved by the committee, usually by approaching the Israeli representatives directly as they are perceived to control the committee's decision (PA12, 2016). A number of interviewees mentioned this informal lobbying process and the involvement of international organisations to put some pressure on the Israeli side of the JWC in order to accelerate the approval process for selected Palestinian projects. At the same time, however, they mentioned that this involvement does not happen often enough and that the organisations that are indeed getting involved hardly had any influence on the outcome (PA4, 2016; PA6, 2016; PA7, 2016; PA8, 2016).

### **5.3 Chapter conclusion and potential future cooperation**

As shown above and recurrently mentioned by interviewees and in scientific literature, the official relations and power imbalances between Palestinians and Israelis render the JWC dysfunctional to the point that it is currently not meeting at all. The most important factors noted as impeding successful cooperation between the two parties are the unequal distribution of power and administrative mandates that leads to the Israeli side dominating the project approval process. Palestinians are unable to exert influence on Israeli resource development projects outside of the West Bank, which accounts for the great majority of Israel's aquifer exploitation, and Israelis are able to take unilateral decisions on project approvals

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<sup>20</sup> The formal instruction was issued to the PWA by then-Prime Minister Salam Fayyad and his cabinet.

<sup>21</sup> Cited in this report as World Bank (2009).

in Area C via the Israeli Civil Administration after projects have already passed the JWC.

One interviewee summarised the situation as follows:

'You need an organisation that would foster equal representation from the different riparians, and I don't know how that can be managed. The power balance is so imbalanced at the moment, I don't know how Palestinians can maintain equal representation in an institution like that.' (PA12, 2016)

Based on this superior position, Israeli representatives to the JWC are able to coerce their Palestinian counterparts into approving hydraulic projects related to Israeli settlements in order to receive permits for Palestinian projects. This strategy has become very common within the JWC since the 1990s and has driven the Palestinians out of the committee in protest in 2010, leading to a stalemate until January 2017. The lack of transparency and access to information regarding JWC procedures for external observers (PA7, 2016) and the grave mistrust between Israeli and Palestinian officials are additional barriers to effective cooperation.

In an attempt to improve the official cooperation, the PWA has repeatedly called for the JWC to be disbanded and replaced by another, new joint mechanism (PWA, 2013a, PWA, 2013b). Some ideas for a replacement committee were outlined in the Geneva Initiative which is further elaborated in the corresponding section of this report. From the Palestinian perspective, there is one important prerequisite for effective cooperation with the Israelis: both parties need to enter on an equal footing with regards to rights and respect for each other. The inclusion of Israeli settlements in any way is an additional impediment to cooperation as many Palestinians regard the Israeli presence in the West Bank as illegal and are not willing to collaborate with Israelis based in the West Bank. As one interviewee put it: 'Most Palestinians who want to cooperate will say, we are willing to work with Israelis in Israel, but not in the West Bank' (PA9, 2016). In an attempt to improve the official cooperation, the PWA has repeatedly called for the JWC to be disbanded and replaced by another, new joint mechanism (PWA, 2013a; PWA, 2013b). Some ideas for a replacement committee were outlined in different proposals such as by the Geneva Initiative, which is further elaborated in the corresponding section of this report, and a report by Brooks and Trottier (2012) commissioned by EcoPeace Middle East<sup>22</sup>.

While the cooperation on the highest official level has been complicated for years, technical steering committees subordinate to the JWC have been the scene of discussions and collaboration between Israelis and Palestinians. Huntjens (2017) points out the importance of joint fact-finding and agreement on technical aspects as a basis for political cooperation. An improvement on joint fact-finding processes between Israelis and Palestinians could therefore advance the transboundary collaboration. This does, however, require some changes in the attitude towards

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<sup>22</sup> Further details of these proposals are discussed in Chapter 10 of this report.

joint scientific projects as there are currently policies against academic cooperation in place at some Palestinian universities, according to an interviewee based on the notion that Israel 'would not allow us full academic freedom' (PA10, 2016).

Despite the sentiment and negative feelings expressed by many of the interviewees about the functionality of the JWC, there are some potential outcomes that may contribute to the cooperation. One of the Israeli interviewees mentioned that '[i]n peace negotiation, water is a window of opportunity. It was very clear water was not the obstacle for peace agreement' (IS6, 2016). This comment reflects that with new sources of water available through desalination, the overall availability of water will increase and that the price for desalinated water is decreasing. As IS6 (2016) commented, with desalination technology, Israel has solved its water problem: 'Now the cost of desalinated water is 0.5 NIS/CM. Some years ago, this was 80 cents, so it is a significant drop' (IS6, 2016). Technological advancement in desalination technology, as well as wastewater treatment and water recycling, could potentially create windows of opportunities for collaboration over new water resources between the parties.

## 6. Action Situation 2: Cooperation between Israel and Jordan

### 6.1 Action situation, outputs and outcomes

Israel and Jordan signed a peace treaty in 1994, outlining, among other issues, their future cooperation over the shared water resources (Peace Treaty, 1994). Official bilateral negotiations over the treaty started in 1991, facilitated by the US administration. However, a number of informal processes predated the peace talks, including informal technical cooperation over the division of water to Israel and Jordan from the Yarmouk River (Haddadin, 2014).

In 1979, the Jordanian removal of a sandbank in the Yarmouk that had impeded water diversion into the Jordanian water supply system led to disputes between the two countries, eventually leading to the mobilisation of troops on either side of the river (Haddadin, 2014). In order to defuse the situation and to avoid a similar incident from occurring again, the UNTSO (United Nations Truce Supervision Organisation) set up regular meetings, attended by a military and a water expert of either side, to discuss matters related to the division of water in the Yarmouk. Haddadin (2014) described these informal meetings as a place of 'mutual respect' (p. 252) and explained that 'they contributed to Israel's understanding of the difficulties Jordan was facing in water supply' (p. 255).

Annex II of the treaty provides detailed agreements related to water allocation and usage from the Jordan and the Yarmouk River, as well as cooperation over the development of 'new' water. (Peace Treaty, 1994; IS9, 2016; IS12, 2016). While water has a high priority in the peace treaty, a Jordanian interviewee commented that it was certainly not the only priority for both countries (JO3, 2016). When dealing with the details on allocation and joint management of water, the treaty negotiations also discussed energy and environmental issues at the same time. Both parties agreed to negotiate these three topics simultaneously early on in the formal process (Haddadin, 2014).

Contrasting the situations between Palestine-Israel and Jordan-Israel, one of the Israeli interviewees pointed out that the agreement with Palestine is interim whereas the agreement with Jordan is final (IS9, 2016). All details about the cooperation between Israel and Jordan, both over water and in general, were formally accepted by the two countries at the time of signing the peace treaty (JO3, 2016). The general view of the Israeli interviewees was that water cooperation with Jordan based on the peace treaty is working well (IS2, 2016; IS4, 2016), including keeping an open channel between the two countries to discuss issues related to the cooperation (IS9, 2016). On the Jordanian side, the reactions on the treaty itself were more mixed, with concerns about the equality between the two countries in the peace treaty and assumptions that there might have been a better deal possible for Jordan, also in terms of water (JO2, 2016; JO5, 2016; JO6, 2016). In general, however, the cooperation was said to work well (JO7,

2016). One Jordanian interviewee expressed the view that JWC is the only committee coming out of the peace treaty that is still working and regularly meeting (JO2, 2016).

While the Peace Treaty includes provisions on the amount of water that is allocated to each country, several interviewees indicated that Israel supplies 50 MCM of additional water to Jordan (IS1, 2016; IS2, 2016; IS4, 2016; JO4, 2016).

### Outputs and outcomes

As a result of the 1994 Peace Treaty, the JWC between Jordan and Israel was set up in the same year. This committee has a broad scale of activities and ensures that the articles and clauses of the 1994 Peace Treaty are properly executed (JO4, 2016). The JWC deals only with matters regarding water. The commission is concerned with the water cooperation that affects both countries, which means that all projects that are in some way linked to water need to be communicated to the JWC (JO4, 2016).

The peace treaty includes annex on environment (Annex IV), which includes ecological rehabilitation of Jordan River (Annex VI, Peace Treaty, 1994). Both Jordan and Israel are working to rehabilitate the Jordan River, with both sides having their own master plans (IS4, 2016). Tal (2017) indicated that based on this plan, the Israeli government plans to release 30 million cubic meters each year. While actual release has been approximately one third of its pledged amount, it is a major progress considering no water had been intentionally released to the Jordan River since 1964 (Tal, 2017; IS4, 2016). One of the interviewees commented that in order to rehabilitate the Jordan River, ideally 100 MCM of water should flow through the river each year, out of which 60 MCM could be produced and released by Israel with its current desalination and water treatment technology. The same interviewee suspected that if Israel released this amount of water, farmers on the Jordan side would use it (IS6, 2016).

Another major output from cooperation between Israel and Jordan is the Red-Dead Sea Conveyance project. This project will be discussed in more detail in Chapter 7.

Haddadin (2014) notes that the process leading up to the peace treaty and the cooperation over shared water resources since have led to an acknowledgement of the importance of 'transparency and credibility' (p. 260) by both parties. However, he also points out that the relations between Jordan and Israel have been deteriorated by the continuing Israeli-Palestinian conflict and the rise of the right wing in the Israeli political landscape.



# Cooperation between Israel and Jordan

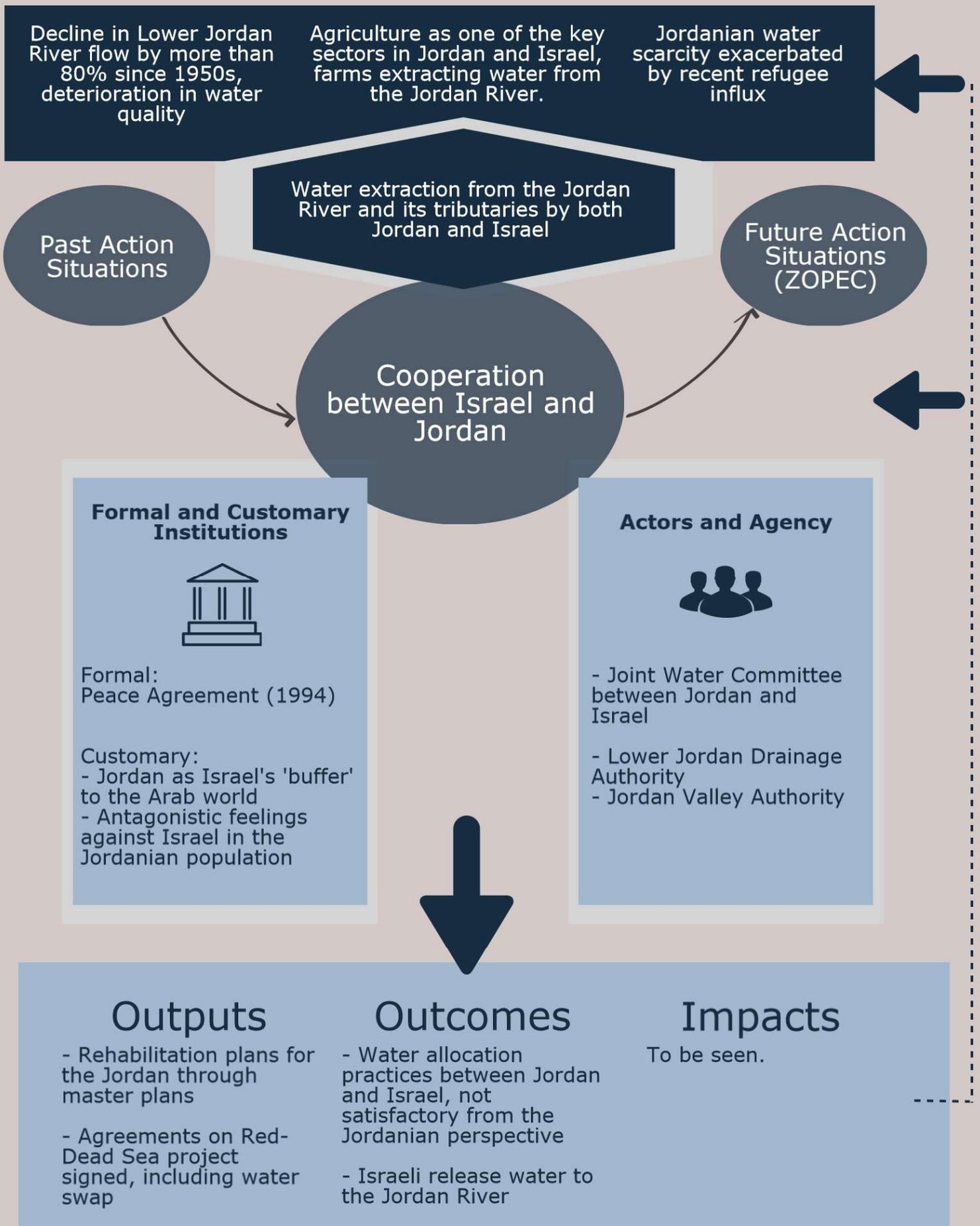


Figure 10: Factors affecting cooperation between Israel and Palestine.

## 6.2 Factors affecting the cooperation

### 6.2.1 Contextual factors

One of the main biophysical factors affecting the cooperation between Israel and Jordan is the severe water stress in Jordan, as was pointed out by a number of Israeli interviewees (IS2, 2016; IS4, 2016; IS6, 2016; IS7, 2016). Lack of water has been a chronic problem for Jordan since the 1970s (Ministry of Water and Irrigation, 2004). Per capita water availability fell from 3600 cubic meter/year in 1946 to 145 cubic meter/year in 2013 (Al-Ansari, Alibrahiem, Alsaman, & Knutsson, 2014). The National Water Strategy 2016-2025 indicates that the annual renewable resources available per capita is less than 100 cubic meters/year (Ministry of Water and Irrigation, 2016). One of the reasons for increasing water stress is population increase, as well as the increase in the number of refugees from the Arab region, including Palestinian refugees and, more recently, Syrian refugees (Ministry of Water and Irrigation. Hashemite Kingdom of Jordan, 2016; RB1, 2017). Jordan does not have many water resources (IS2, 2016), and 10 out of 12 groundwater aquifers are over-exploited (Ministry of Water and Irrigation, 2012).

One Israeli interviewee suggested that one of the reasons why cooperation is working well with Jordan is because they depend on Israel for their supply water (IS12, 2016). Another interviewee from the Jordanian civil society indicated that their government is very grateful for the water it receives from Israel. The government wants the best for the country and Israel can bring Jordan the water it so drastically needs (JO5, 2016). IS7 noted in this context: 'In Amman, they only have water one day a week. So there are priorities and we have to listen to the Jordanian priorities' (IS7 2016). RB2 commented on this point, and indicated that Israelis in general may have an emphatic understanding of their Jordanian neighbour's water situation due to natural scarcity and increasing demand due to the Syrian conflict, which is in stark contrast to the poor relations and lack of expressed empathy for the Palestinian water crisis, which Israel is directly responsible for (RB2, 2017).

### 6.2.2 Formal institutions

Annex II of the 1994 Peace Treaty is the main formal rule that provides the framework of water cooperation between Israel and Jordan. The treaty indicates the specific amount of water that each party receives depending on seasons. The treaty does not consider the environmental flow in its water allocation between the two states. For example, Article I of the Annex II mentions the allocation of the Yarmouk river water and states that 15 MCM is to be used by Israel and the remainder of the water used by Jordan (Peace Treaty, 1994, Ann. II, Art. I).

Article III of the treaty indicates that Israel and Jordan are to cooperate in identifying additional 50 MCM/year of drinkable water (Peace Treaty, 1994, Ann. II, Art. III). This article provides the basis for cooperating on exploring options for

'new water' such as through desalination planned under the Red Sea-Dead Sea Conveyance Initiative and the associated 'water swap' agreement.

Article III also specifically mentions the importance of ensuring water quality and the protection of the river, which provides a basis for cooperating on rehabilitation of the Jordan River (Peace Treaty, 1994, Ann. II, Art. III). It is important to note that while the article mentions the protection of the river, the focus is on pollution and does not consider the environmental flow.

The treaty plays an important role in water cooperation, as highlighted by one of the interviewees who mentioned that:

'[...] the most important factor is the willingness to cooperate. If each side understands what are the strategy of water issues, and we are having a mechanism that can operate this procedures of allocating water from the transboundary water ways, than it is a good cooperation. So, with the Jordanians we have a peace treaty and in the peace treaty it was settled how to manage the transboundary water, which are located in the Jordan.' (IS7, 2016)

Some argue that water allocation through this agreement favours Israel. For instance, Beaumont (1997) argues that while the Treaty does not provide the waters of the Jordan basin as a whole, the volume of water Jordan has access to is significantly lower than what was proposed by the Johnston Plan of the 1950s. Fischhendler (2008) argues that Israel did not recognise Jordan as a riparian to the Sea of Galilee, thus the name of this lake does not appear in the treaty language (Fischhendler, 2008). While such ambiguity may have helped parties to reach the agreement, a Jordanian interviewee indicated that the feeling of many Jordanians was reflected at the time the peace treaty was signed, as back in 1994, the climate was not right for criticising the government (JO3, 2016). Nowadays, people accept the agreement that has been made. If there are any hard feelings, most people keep quiet about them (JO3, 2016). The critique mainly revolves around the fact that it has taken 30 years to finally come to an agreement between the countries since the situation became the status quo. JO2 (2016) mentioned that some Jordanians still feel that the agreement is not the best deal they could have got out of the situation.

### *6.2.3 Customary institutions*

Some of the comments from interviewees indicate that Israelis are concerned and sensitive about how Jordanians perceive them, and that Israelis generally do not want to jeopardise the relationship with Jordan. For example, IS7 indicated the importance of listening to the Jordanian priorities, i.e. water scarcity (IS7, 2016). IS12 (2016) additionally indicated: 'We, as Israelis, want to show the world that we are cooperating with the Jordanians.' For the Jordanians, a much bigger role is reserved for water. However, one Jordanian interviewee argued that water was not the highest priority for Jordan, as people are not satisfied with the outcome on

the water negotiations, hinting that water was used as a leverage for something more important (JO3, 2016).

Building trust between the two parties through informal meetings was an important part of the process leading up to the peace negotiations. Informal technical cooperation over the diversion of the Yarmouk waters thus predates the official cooperation according to the Peace Treaty by several decades (Haddadin, 2014). Haddadin (2014) states that the foundation built by these informal interactions is a crucial reason why current cooperation is still functioning amidst obstacles such as the ongoing Israeli occupation of Palestinian territories and the rise of the Israeli right wing.

Jordan is one of the few countries in the Arab world that Israel has a peace agreement with. Maintaining a good relationship is therefore very important to Israel, the sole country in the region with a majority non-Arab population. In this context, an article in the US News describes Jordan as 'a massive strategic asset to Israel' (Welsh, 2014). An analysis of the Jordanian-Israeli relations in the Middle Eastern news outlet Al Monitor mentions that 'Jordan has become a buffer zone limiting attacks from the eastern front against Israel' (Abu Amer, 2016). This is considered particularly relevant in the light of current conflicts in Syria and generally high tensions in the region, as well as increased refugee dynamics.

In addition, many Palestinian refugees are living in Jordan, and for the safety and stability between the countries, it would be more strategic for Israel to maintain the peaceful relationship with Jordan. For Jordan, cooperation with Israel is the only option for Jordan to solve the water problem as their domestic water resources are not sufficient to ensure a reliable supply (JO6, 2016). Additionally, maintaining good relations with Israel is generally of interest to Jordan, as it comes with significant financial support from USAID and other US financing streams (Nashashibi, 2014). Jordanian national opposition to the agreements is mainly opposed to a peace treaty in general, but not as opposed to the rules that stem from the agreement (JO7, 2016).

One of the Israeli government interviewees commented that at times, Jordanian government officials are afraid that their own people will see them coming to Israel, therefore they sometimes meet at the bridge housing the border crossing between Jordan and Israel (IS12, 2016), even though there are special agreements about crossing the borders for JWC members (JO4, 2016). IS12 (2016) echoed this, indicating that '[i]t's easier for us to go to Jordan, we don't have a problem going there but they have a problem coming here'. This is mostly due to the strong feelings about equality within the Jordanian public towards Israel in general. A Jordanian interviewee pointed out that the people feel that they have given up their water supply with the peace treaty and are dependent on Israel to get the water back, putting Israel in control of the Jordanian water supply (JO3, 2016).

This general feeling in the Jordanian population is reflected in the public reaction to the increasing economic relationship between Jordan and Israel in general. For

example, the two countries signed a 15 year gas purchase agreement in 2016. Through this agreement, Jordan's National Electric Power Company Ltd will purchase 45 billion cubic meters of gas over a 15-year period (Abu Amer, 2016; Henderson, 2016; Udasin, 2016). While this purchase is economically important for Jordan, there is some opposition, along with public protest, against it by Jordanians who oppose the 'normalisation' with Israel, considering Israel's occupation of Palestinian land (Ersan, 2017; Henderson, 2016). Trust in a collaboration with Israel is still lacking among the Jordanian public, even after the peace treaty, often referred to as a 'cold' peace (Kenyon, 2009). This is related to the fact that many of the Jordanians have Palestinian roots, so they tend to feel uneasy when it comes to collaborating with Israel (Nanes, 2008; JO6, 2016). In general, however, the countries are dependent on each other in different ways, not only with regards to water, but also, for instance, security (JO7, 2016). In this way, one Jordanian interviewee described the cooperation as having become a bridge between the east and the west (JO3, 2016).

#### *6.2.4 Actors and agency*

The JWC plays key roles in cooperation between Jordan and Israel. The JWC comprises of three members from each country, and serves as the main implementing body of the provisions related to water in the Peace Treaty (Peace Treaty, 1994, Ann. II, Art. VII). Whenever one of the two countries has plans that in any way regard water issues, the JWC has a role in it (JO4, 2016). Some of the Jordanian interviewees indicated that the JWC is the only committee originating from the peace treaty that is still working and meeting regularly (JO2, 2016; JO7, 2016).

From the Israeli side, the IWA is the main executive of the government, in charge of administering all water issues within Israel, including the preservation and restoration of natural water resources, development of new water resources and oversight of water consumers and producers (Huntjens, 2013). The Lower Jordan Valley Drainage Authority is undertaking the development of a master plan of the lower part of the Jordan River (Huntjens, 2013).

The JWC was installed as part of the Peace Treaty. This committee is responsible for all day to day water issues between Israel and Jordan (JO2, 2016). This means that the JWC is involved with making sure that the articles and clauses of the treaty regarding to water are implemented correctly (JO4, 2016). The JWC meets regularly and provides an opportunity for good cooperation between the two countries (JO7, 2016). Whenever there are transboundary projects between the two countries, the JWC has a role in it. When other riparians are also involved, though, the JWC does not have a mandate, for instance in all cases that also include Palestine (JO2, 2016).

### **6.3 Chapter conclusion and potential future cooperation**

Cooperation between Israel and Jordan is building onto and affected by the historical relationship between the two countries, and associated water conflicts they faced in the past. From the perspective of Israeli stakeholders who face conflict with Palestinian counterparts, the cooperation with Jordan seems to be much smoother. While there are still tensions, particularly stemming from the Jordanian populations' sentiments against Israel and its occupation of the West Bank, there are many areas where the cooperation between the two countries plays an important role in their socio-economic strategic development and geo-political / security priorities. These are illustrated in the recent agreements over the Red Sea-Dead Sea Conveyance project and the related water swap which will be discussed in further detail in the following chapter, and the current energy trade between the two countries. As both sides see benefits from the cooperation, there is potential for further enhancing cooperation between the two countries in the future. However, for this to succeed, it is important to balance the sentiments of the Jordanian population vis-à-vis its Israeli neighbour.

## 7. Action Situation 3: Red Sea – Dead Sea Conveyance Project<sup>23</sup>

### 7.1 Action situation, outputs and outcomes

The Red Sea – Dead Sea Water Conveyance Project is an ambitious infrastructure project to connect the Red Sea and the Dead Sea in order to counteract the shrinking of the latter and to produce additional drinking water by means of desalination (Figure 11). The total costs are estimated around USD 10 billion (Coyne et Bellier, 2014). It was first announced as the 'Peace Conduit' by Israel and Jordan at the 2002 World Summit on Sustainable Development with the primary goal to stabilise the Dead Sea's water level (Gavrieli & Bein, 2007).

The parties bordering the Dead Sea – Jordan, Israel and Palestine – agreed on a roadmap for further action in May 2005 when they signed the Terms of Reference for a feasibility study on a canal connecting the Red Sea and the Dead Sea. The main objective of the project agreed upon by the three parties was threefold: 1) save the Dead Sea from environmental degradation; 2) desalinate water / generate energy at affordable prices for Jordan, Israel and the Palestinian Authority; and 3) build a symbol of peace and cooperation in the Middle East (Red Sea - Dead Sea Water Conveyance Project, 2005).

Since 2009, a number of studies, facilitated by the World Bank, have informed various reports on the technical feasibility as well as environmental and social assessments of the project region.

In Israel, most interviewees expressed the opinion that the project is a positive result of cooperation. One of the interviewees mentioned that 'in 2013, three ministers smilingly agreed to go ahead with this project' (IS9, 2016). Another interviewee commented that the actual project is of particular importance to Jordan that is facing water scarcity, while from the Israeli perspective, cooperation as such is the most important aspect (IS7, 2016). This was echoed by IS4 (2016):

'We talked about the fact that Jordan is lacking water. So how come that after they have their first desalination plant that they give half of it to Israel? But the trick is that they really give it to us so that we can in return supply them here in the North. Because we need it in the South. This is a very nice way to cooperate with the little resources that we have.' (IS4, 2016)

From the perspective of Jordan, the main objectives for the project are the availability of more drinking water and to stop the decline of the water level in the Dead Sea (JO1, 2016; JO4, 2016). On the latter point, there are concerns about the environmental impact within the Jordanian population (JO1, 2016). This does not only relate to concerns about how the Dead Sea ecosystem might be affected by the brine from the desalination plant with regards to water quality, but also to

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<sup>23</sup> Many of the documents and agreement related to this project remain confidential, resulting in this research relying mostly on secondary resources for this analysis.

concerns that the amount of brine and thus additional water is not enough to keep the Dead Sea at the same level (JO6, 2016). A regional interviewee indicated that the capacity of the Dead Sea to handle the influx of brine and water from another ecosystem is limited, and considerably smaller than the amount necessary to stop the shrinking of the Dead Sea, also indicating the lack of studies in understanding the ecological impact (RB1, 2017). One interviewee pointed out this means that while the overall idea sounds promising and the cooperation is a step forward, it has to be kept in mind that eventual outcome of the project might be very different from the original plan (JO6, 2016). The question about the feasibility of the project also stems from its costs, as, according to JO6 (2016), some studies indicate that they might add up to USD ten billion instead of the one billion that was initially planned.

Potable water supply is increasingly becoming an urgent issue in Jordan, accelerated by a large influx of refugees providing even greater pressure on the water demand (JO2, 2016). The Jordanian government is therefore very eager to engage in large-scale projects that provide new sources of water (RB1, 2017).

One of the Jordanian interviewees said that this mega supply project can help bridge the gap between supply and demand, ensuring that the amount of water asked for can be closer to the amount of water offered (JO8, 2017). This is of particular importance since this gap is widening due to the increased water demand from refugees in Jordan (JO6, 2016). One of the Jordanian interviewees indicated that the project needs to be an example of a project that works well, in both the short and long term, thus illustrating that collaboration works (JO5, 2016).

While Palestinians are formally mentioned as a party involved with the project, Palestinian interviewees mentioned that they were considered as a beneficiary of the project rather than an equal stakeholder (PA10, 2016; PA12, 2016). This was echoed by RB2 who indicated that the question of whether to recognise Palestinians as riparian was much debated during the negotiations. In order to avoid any legal implications, it was concluded that the project would consider Palestinians as beneficiaries (RB2, 2017). At the same time, however, their benefit would simply take the shape of an increase in the amount of water Mekorot is selling to the Palestinians, but not in additional water resources being allocated to them (PA10, 2016; PA12, 2016).

One Palestinian interviewee further criticised the project for not addressing the root cause of the Dead Sea shrinking, which was described as the excessive amount of water diverted from the Jordan River. Implementing a large-scale project like the Red Sea – Dead Sea project, only to deal with symptoms instead of the root cause, was described as a 'completely ridiculous idea' and a 'runaway pseudo-solution' in this context (PA13, 2016). Similarly, the PWA's 2013 Transboundary Strategy states that '[t]he public debate on the shrinking of the Dead Sea tends to bypass the root causes of the crisis' and fails to '[examine] the legacy of past and current water management strategies in the region' (PWA, 2013b, p. 34).

Palestinian interviewees also admitted that Palestine was in a comparably weak position compared to the two other riparians and unable to exert much influence over the outcomes. According to them, the PA's decision to become involved with the Red Sea Dead Sea project in the first place was mainly a 'good gesture' (PA12, 2016) towards Jordan, who heavily relies on the project to meet their water demands, rather than a sign of any conviction in the project (PA4, 2016; PA12, 2016; PA13, 2016).

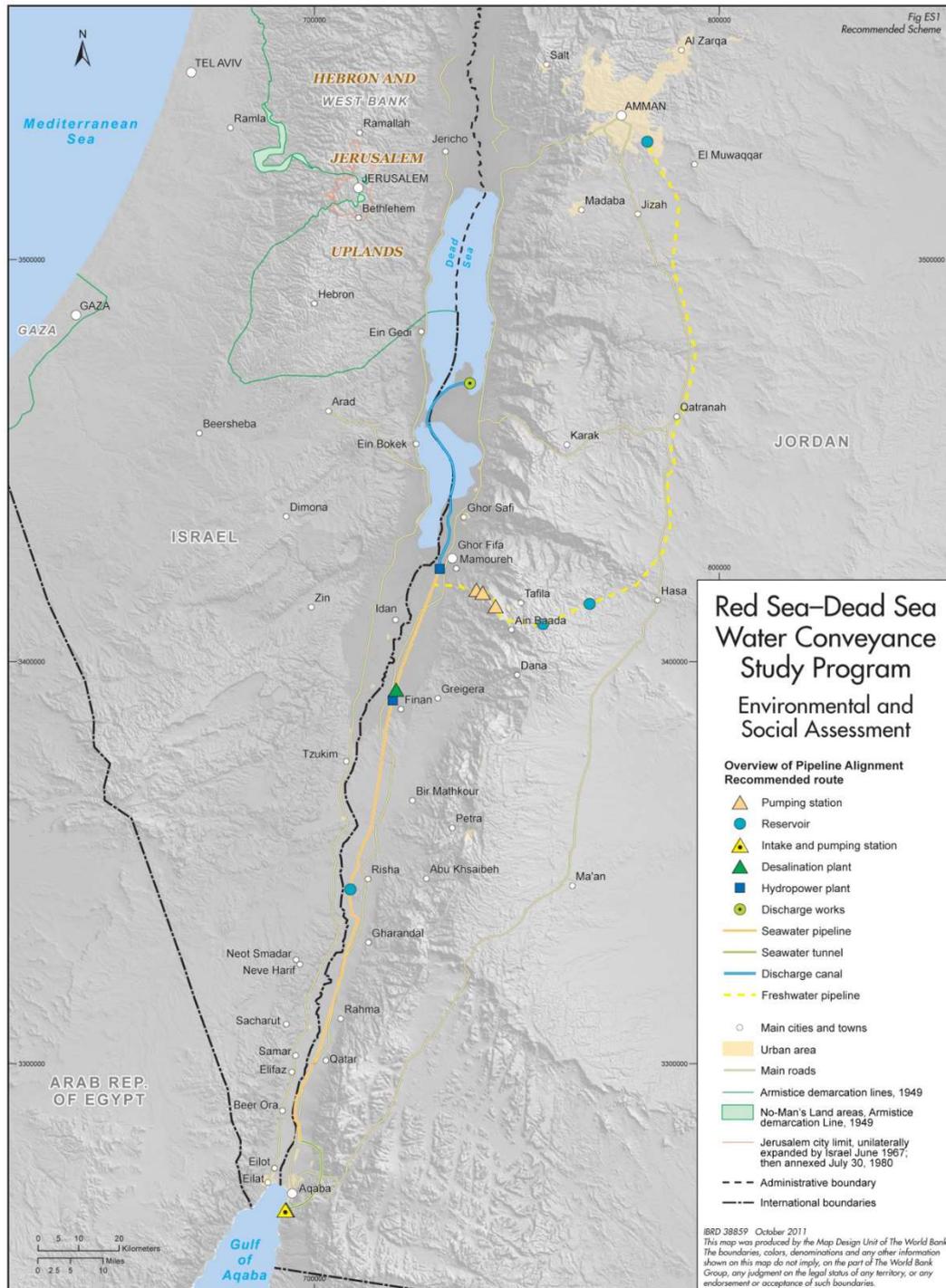


Figure 11: The proposed location of the Red Sea - Dead Sea Conveyance infrastructure. Source: World Bank (2014).

## Outputs and outcomes

The outputs of the action situation so far are a number of reports surrounding the feasibility study conducted under the guidance of the World Bank. In 2013, the governments of Israel and Jordan and the PA signed a Memorandum of Understanding which calls for construction of a water desalination plant in Aqaba, Jordan's Red Sea port city. At the initial stage, the plant is expected to produce 80-100 million cubic meters of drinking water annually (Ministry of Water and Irrigation, 2014). From this plant, Israel will receive 50 MCM of water, and in turn provide Jordan with same quantity of freshwater pumped from the northern Sea of Galilee, making the initiative a swap of water between the two states. Additionally, Israel has committed to sell an additional 30 MCM of water to the Palestinians (Ministry of Water and Irrigation, 2014; Mitnick, 2013), however, no definitive agreement between the Israelis and Palestinians has been signed so far (RB1, 2017).

The water exchange between Israel and Jordan is an important part of the deal for Jordan, because by providing Israel with water in the south, Jordan in turn will receive additional water quantities from Israel in the north, where they need it the most (JO4, 2016). While both Jordan and Palestine suffer from water shortages, this so called 'water swap' is considered crucial for Jordan in particular as it is suffering from severe water shortage in the north of the country where many refugee camps are located (Josephs, 2013; Mitnick, 2013).

In a statement from November 2014, the PWA outlined their position on the outcomes of this study program so far. In this document, they criticise the lack of a focus on the root causes of the Dead Sea's degradation, both in terms of factual processes and in terms of riparians' responsibility for these processes. In this context, they stress that Palestine is the only riparian to not contribute to the shrinking of the Dead Sea while at the same time being subject to considerable harm due to the activities of other riparians along the Dead Sea and upstream on the Jordan River. They also point out that the studies fail to address the social and geopolitical implications of certain aspects of the project in lieu of the project's objective to foster cooperation and build peace within the region, e.g. in the case of Israeli settlements within the West Bank that were not explicitly excluded as project beneficiaries (PWA, 2014).

With regards to the insights provided by the feasibility study, one interviewee pointed out that there were still many uncertainties about the possible outcomes on the Palestinian side. This is related to the full environmental impact on the Dead Sea and beyond and the added value of the project for the rehabilitation and preservation of the Jordan River, as well as how the project would fit into the prevailing political situation in the region (PA4, 2016). Similarly, PA13 (2016) noted that they do not expect any improvement in the ecological status of the Jordan River due to the projects' failure to address the low river flow as the root cause of the shrinking of the Dead Sea, as mentioned above. It should be noted, however, that an ecologically beneficial outcome for the Jordan River has never

been part of the Red Sea-Dead Sea Project in the first place (Red Sea - Dead Sea Water Conveyance Project, 2005; PA13, 2016).

The outcome of this cooperation is yet to be seen. The initial outcome will be observed once the first phase of the project (desalination plant) is being built and operated. Based on the design of the project, it should result in a pipeline transporting 2000 MCM from the Red Sea to the Dead Sea, leading to the increased water level of the Dead Sea, hydropower generation and desalinated water from the Red Sea (Josephs, 2013).

### Impact

The impact of the Red-Dead Sea project is yet to be observed. While the project is expected to contribute to the decreasing rate of shrinking of Dead Sea and even to revive the water level, details on the impact of mixing different waters remains uncertain, with the potential for algae growth in the Dead Sea. For the riparians, this is a cause of concern, because it is not yet known how the final project is going to affect the Dead Sea ecosystem (JO1, 2016; PA4, 2016).

## **7.2 Factors affecting the cooperation**

### *7.2.1 Contextual factors*

In the past century, the Dead Sea has shrunk by approximately one third of its surface area (Figure 13). One of the main reasons for this is the reduction in the water inflow into the Dead Sea from the Jordan River, which is affected by the development of elaborate diversion schemes in order to provide drinking water, irrigate crops in the Jordan Valley and provide water for fish ponds. Since the 1950s, the Jordan River flow has fallen by around 80% from approximately 1300 MCM to 280 MCM per year at the beginning of the 21<sup>st</sup> century. (Gavrieli & Bein, 2007). Major diversion schemes are the Israeli National Water Carrier, extracting 440 MCM per year directly from the outlet of Sea of Galilee, and the Syrian and Jordanian irrigation schemes, extracting approximately 200 MCM per year each from the Yarmouk River, the main tributary of the Jordan River (Venot et al., 2008). The amount of water reaching the Dead Sea is currently estimated to be 70-100 MCM/year (Kool, 2016; PA6, 2016).

The rapid decline of the Dead Sea's water level has an adverse impact both on the Dead Sea water quality and the related ecosystems and on the tourism industry along the Dead Sea's shoreline (Gavrieli & Bein, 2007).



# Red Sea - Dead Sea Conveyance Project

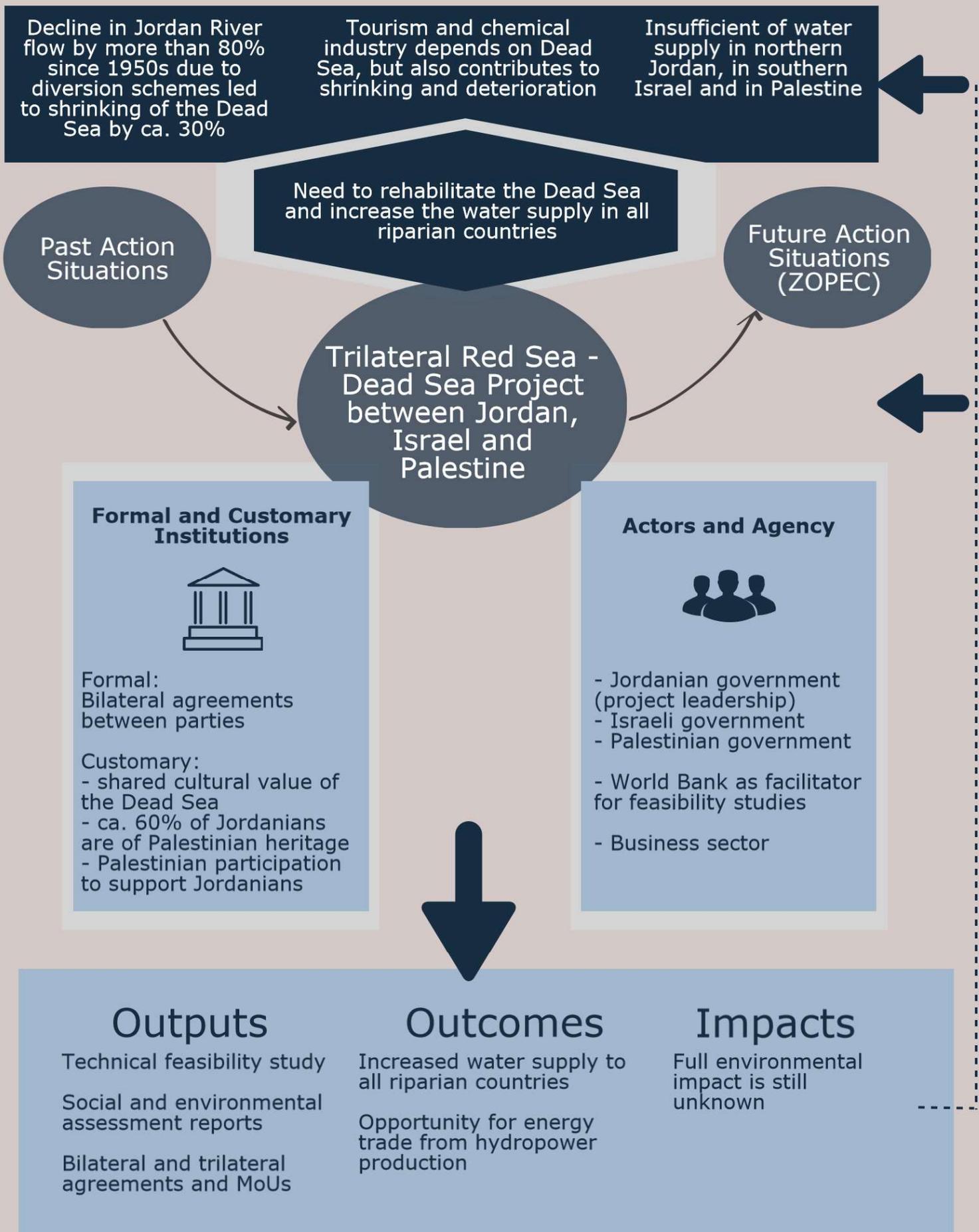


Figure 12: Factors affecting the trilateral cooperation on the Red Sea - Dead Sea Conveyance Project.

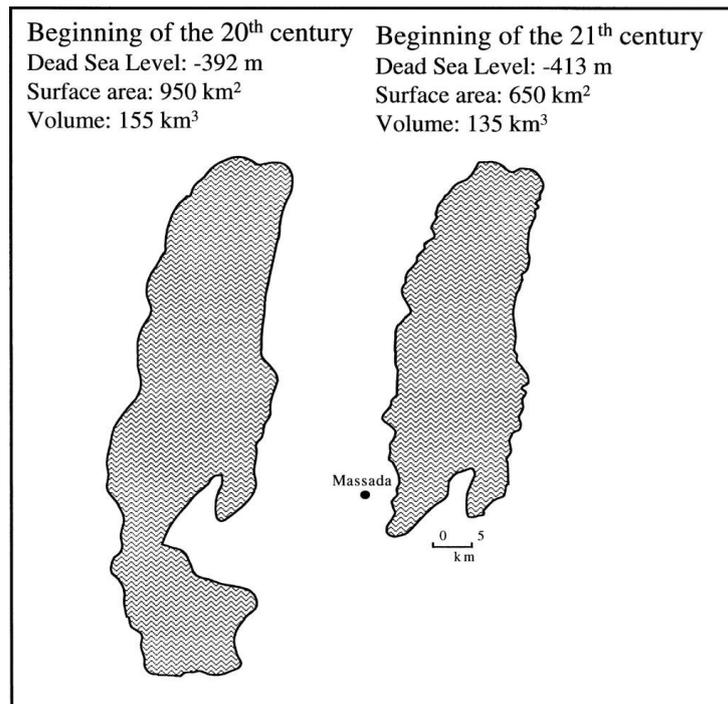


Figure 13: Shrinkage of the Dead Sea. Source: Gavrieli et al. (2005).

Another factor causing the shrinking of the Dead Sea is the chemical industry. Next to the tourism industry, the chemical industry of the mineral sedimentation also has an important stake in the future of the Dead Sea. This is a two-way problem. On the one hand, it is an industry that lives off the Dead Sea and wants its environment to stay constant. On the other hand, evaporation ponds used for sedimentation in the southern part of the Dead Sea play a large role in the evaporation of Dead Sea water and the subsequent shrinking. According to Gavrieli, Bein, and Oren (2005) these ponds count for 30% of the Dead Sea's water level decline. A few years ago, these companies were responsible for one third of the evaporation of the Dead Sea, but as it continues to shrink and the evaporation ponds stay the same size, the fraction of the evaporation this industry is responsible for will increase over the years (RB1, 2017).

Prior to the current RSDS project design, there was another approach that had a different outlook. This would have been a project only aiming at a higher water quantity for Jordan and more affordable water for the West Bank. The desalination plant would have been located close to the Dead Sea instead of the Red Sea and would have had a capacity of 900 MCM/year (JO2, 2016). As more water would have flowed all the way to the Dead Sea in this scenario, it could have generated more hydropower along the way. However, JO2 indicated that after the negotiations with the participating countries, a totally different arrangement was signed in the end. According to RB1, the original design of building a desalination plant near the Dead Sea would have had a higher cost, and not be profitable for a public-private partnership. The new location for the desalination plant in Aqaba would require less financial contributions by the countries, lowering the water price (RB1, 2016).

For Jordan, it is important that the infrastructure of the project and the desalination plant will be located on Jordanian territory. On the way up north towards the Dead Sea, hydraulic power will be generated from the project (JO4, 2016). Jordan itself will be in control of the desalination (JO7, 2016). In addition, Jordan is the riparian that is suffering the worst from physical water scarcity<sup>24</sup> (PA1, 2016). In 2010, water demands exceeded water supply by 200% (Ministry of Water and Irrigation, 2012).

In the past few years, the demand for water in Jordan has increased, partly as a result of the enormous influx of refugees from Syria (Namrouqa, 2016; JO8, 2017). This makes the incentive to establish a new source of water for Jordan even stronger.

From the Palestinian perspective, the project infrastructure, i.e. the canal itself and the desalination plant, is entirely located outside of their territories. Some of the Palestinian interviewees considered that they were included in the project as Palestinians are a riparian to the Dead Sea, where the brine of the planned desalination plant will be discharged to (PA10, 2016; PA12, 2016).

There are still uncertainties about the overall regional hydrology and the linkages between the different water bodies as well as the expected outcomes of the Red-Dead project (PA1, 2016). There is, however, a common understanding that the retreat of the Dead Sea affects the nearby springs, creating sink holes and also economically impacting all three riparian countries. However, parties disagree about who to blame for this retreat (PA1, 2016; PA8, 2016).

### *7.2.2 Formal institutions*

The overall project includes three different components: 1) the infrastructure development of the actual conveyance, desalination and hydropower plants; 2) the water swap between Jordan and Israel; and 3) the increase in water sales from Israel to Palestine. While Jordan has recently started the initial phase of infrastructure development, bilateral agreements between the respective parties are signed or intended on the other two components (RB1, 2017).

The agreement between Jordan and Israel was signed in February 2015, outlining a time frame for the project with the first constructions to be started within three years (The Times of Israel, 2015). According to Reuters, the agreement stipulates that Israel is to buy 40 MCM of desalinated water (around half of the plant's planned capacity) at cost, and in return release an additional 50 MCM from its reservoir at the Sea of Galilee (Al-Khalidi, 2015). According to an initial MoU on trilateral cooperation over the project signed in 2013, Palestinians will be able to buy an additional 30 MCM of water from Israel (Kershner, 2013). The detailed agreement is yet to be signed (RB2, 2017)

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<sup>24</sup> Note that Palestinians are suffering from water scarcity too, but this is attributed to uneven distribution of resources instead of physical scarcity.

The project and its feasibility study for a larger project considers 'all relevant aspects including the technical, economic, financial, environmental, and social factors' (Red Sea - Dead Sea Water Conveyance Project, 2005, p. 4), implying that it does not touch upon political issues, and explicitly states that it 'shall not in anyway [sic] prejudice the riparian rights of any of the beneficiary Parties' (Red Sea - Dead Sea Water Conveyance Project, 2005, p. 2).

According to the UN Watercourses Convention, of which Jordan and Palestine are signatory, all riparians of a water body have to be included in the planning process of a project if said project is expected to affect the water quality or quantity in the water body (UN Watercourses Convention, 1997). As the proposed desalination plant is intended to discharge its brine into the Dead Sea and might thus affect the water quality, one Palestinian interviewee suggested that this was the main reason for Palestinians to be involved in the project and to have to consent to the plans as a riparian to the Dead Sea, although they are not involved in the infrastructure development itself (PA12, 2016).

### *7.2.3 Customary institutions*

The Palestinian and the Jordanian peoples are connected by their shared history. When Jordan annexed the West Bank in 1948, more than 400,000 Palestinians living in the West Bank were granted Jordanian citizenship, as were an additional 450,000 Palestinian refugees who fled other parts of the region that were subsequently controlled by Israel (Nanes, 2008). According to one interviewee's estimate, approximately 60% of the Jordanian population are nowadays of Palestinian heritage, leading to a deep connection between the two (PA12, 2016). There is, however, a difference in occupation between Jordanians of Palestinian origin and of Jordanian origin (Trans-Jordanians). While Trans-Jordanians take up most positions in the public sector, Palestinian Jordanians are more often employed in the private sector (JO7, 2016). A Jordanian interviewee pointed out that this is one of the reasons why the Jordanian government sometimes underestimates the degree of sympathy from the Jordanian population towards the Palestinians (JO3, 2016).

The common religious and historical value of the Dead Sea and the related cultural heritage that is shared by all three riparians to the Dead Sea (see for instance PUSH, 2008) was additionally pointed out as a common ground for the project partners (PA12, 2016).

From the Palestinian perspective, the prevailing sentiment towards solving the Dead Sea crisis and rehabilitating the Jordan River is that the responsibility lies with the nations responsible for their degradation. While they acknowledge the need to cooperate on a regional basis in order to solve the current problems, they are also eager to point out that the other riparians, particularly Israel, should be blamed for causing them (PWA, 2014; PA7, 2016). As one interviewee put it: 'It is a regional problem created by Israel' (PA7, 2016).

One Jordanian interviewee stated that the problem with cooperation is that parties usually wait until the moment that the other side comes up with a plan and shows good will. They also mentioned, however, that thanks to the Red Sea-Dead Sea project, there is now cooperation between all three parties set up, an important prerequisite for changing the mindset of people (JO6, 2016). The feeling that the cooperation is not equal is still there, though JO2 indicated that this sentiment is made worse by the fact that Jordan will give treated drinking water to Israel in the south. In return, Israel will give Jordan raw water back in the north. This has resulted in the people's criticism that it should at least be a water for water swap of the same quality and quantity (JO2, 2016). There were no particular comments on this subject from Israeli interviewees.

One Israeli interviewee indicated that the project is less important for Israel than Jordan from the perspective of meeting water demands. Rather, the importance of the project for Israel lies in the fact that two countries who share a common water scarcity problem are seen to be cooperating with each other (IS7, 2016).

#### *7.2.4 Actors and agency*

While progress on the Red Sea – Dead Sea Water Conveyance Project was mainly pursued by both the Israeli and the Jordanians, the Jordanian government has been the main driving force for swift implementation in recent years (The Jordan Times, 2016). This point was echoed by one of the Israeli interviewees who commented that while Israel is investing in this project for Jordan, as stability of Jordan is important for Israel, they are not taking the lead (IS2, 2016). In late 2016, the Jordanian Water and Irrigation Ministry published a shortlist of five international consortiums that are competing for the implementation of the first project phase (The Jordan Times, 2016). These five consortiums are still all in the race to execute the first project phase (RB1, 2017).

The Palestinian's role in the project is comparably small. One interviewee indicated that Palestinians perceived themselves as only being included in the project to attract and please international donors (PA10, 2016), while another argued that they had to be included based on international law as the project touches upon the Dead Sea to which the Palestinians are a riparian (PA12, 2016). For many Jordanians, it is important that Palestinians are also included in the project, as they can make good use of extra water resources as well (JO4, 2016). In the original project, there was more emphasis on providing more affordable water to the West Bank (JO2, 2016). However, the agreement between Israel and Jordan was signed before the agreement with Israel and Palestine. Because of this, the project is still one of the bilateral agreements instead of an even regional partnership (JO2, 2016).

The Jordanian government was not the only actor involved in securing money for the feasibility study of Red Sea-Dead Sea project (JO4, 2016). The World Bank played an important role as facilitator and partner organisation for the compilation of feasibility studies. These studies were conducted in collaboration with both

international and regional scholars and consultants (such as: Coyne et Bellier, 2014; World Bank, 2014).

There is a close connection between Palestine and Jordan based on their shared heritage described above (PA12, 2016; JO7, 2016). One Palestinian interviewee summed up the relationship between Palestinians and Jordanians as: 'We are going to support them in any way unless it will have a negative impact on us as Palestinians' (PA4, 2016). Despite connections between Jordan and Palestine, RB2 indicated that tensions exist at the official levels regarding Palestinian positions in the negotiations, as the lack of a detailed trilateral agreement with demonstrated shared benefits has impacted the willingness of several international donors to support and potentially invest in the project (RB2, 2017)

### **7.3 Chapter conclusions and potential future cooperation**

The analysis of key factors affecting the Red Sea-Dead Sea Conveyance Project indicate that resolving the water shortage, particularly in Jordan, along with consideration for the shrinking of the Dead Sea were the key contextual factors that affected the initiation of this cooperation. Actors' interests in maintaining positive relationships with each other, namely the relationship between Jordan and Israel, and Jordan and Palestine, arising from historical contexts (customary institutions), played an important role in moving this cooperation forward. Despite their opposition to some of the fundamental project assumptions, Palestinians consented as a favour to Jordan. This highlights the importance of informal relations between riparians and their peoples, in this case the Palestinian heritage of a great part of the Jordanian population.

Some of the critiques, particularly from Palestinians, arises from the notion that the project was not dealing with the root causes of the Dead Sea's shrinking, namely the extensive water diversion by upstream riparians. Another key concern is the unknown impact on the ecosystem and the aquatic chemistry of the Dead Sea from mixing its water with the inflow from different sources. The Dead Sea is an important source of income for Israel and Jordan, particularly through tourism and mineral extraction companies. It is expected to become an important resource for Palestine as well in the future once the final peace agreement is signed, and there is potential for Palestinians to have access to the shoreline of the Dead Sea in a post occupation scenario. It can be expected that there is a mutual interest in ensuring that the Dead Sea ecosystem is not negatively impacted. Further research and planning to minimise the damage could be one area in which all riparian states can potentially cooperate.

The desalination potential of this project and the idea of water swaps are the aspects that can potentially bring improved cooperation and mutual benefits to all the parties involved. While technology is available to potentially bring mutual benefits, how these benefits can be ensured in a mutually satisfactory way depends on how the implementation takes place.

## 8. Analysis of Action Situation 4: Water in the Geneva Initiative

### 8.1 Action situation, outputs and outcomes

The Geneva Initiative (GI) began in February 2001 as a reaction to the failed Camp David negotiations and as 'an act of unofficial diplomacy' undertaken by Israelis and Palestinians in non-official capacities (Schiff, 2010, pp.93–94). The resulting Geneva Accords, presented in October 2003, mainly focused on the two controversial issues of Jerusalem and refugees, while also including a proposition for borders between the two future states of Israel and Palestine and a number of proposals for security arrangements on either side (Golan, 2004).

Since then, the GI has aimed to improve on the Geneva Accords by continuing the unofficial negotiation process between Israelis and Palestinians and by organising meetings and workshops on a multitude of topics of which some were unilateral and some of a joint nature (Huntjens, 2017). In 2009, a number of annexes were added to the original Accords that deal with additional issues such as water and the economy (GI, 2009a). Further meetings and negotiations have aimed at operationalising previous agreements or addressing new - in the words of one interviewee 'non-traditional' (PA11, 2016) - issues that had been left out before (Huntjens, 2017). The GI's mission statement states that it 'provides realistic and achievable solutions on all issues' and 'aims to bring that moment of peace closer, by showing the way and preparing public opinion and leadership to be accepting of the real compromises required to solve the conflict' (GI, n.d.).

Huntjens (2017) describes the proceedings of a project within the GI, titled 'Vision on Water Within the Permanent Status Agreement', that aimed at drafting a supplement paper to the Geneva Accord Water Annex in 2013 and 2014 from the perspective of an international mediator and facilitator. Initial meetings to assess the range of key issues with the Water Annex included a variety of stakeholders from the water, wastewater and environmental sectors, but were held separately in Palestine and Israel. Later meetings then included expert teams from both parties to work on a joint proposal. Further input from international experts was gathered at additional seminars. A joint fact-finding approach based on peer-reviewed expert contributions ensured the avoidance of future disputes on the scientific background of negotiation points.

While several interviewees welcomed the GI and the discussions it facilitates between non-official representatives, they stressed that these are informal processes (Track II) and that it is important to link them to official negotiations sooner or later in order for the Accord to take effect (PA7, 2016; PA11, 2016). In this context, one interviewee admitted that this appears to be easier to achieve on the Palestinian side where the Palestinian authorities have shown support for the GI at times. On the Israeli side on the other hand, officials have rejected or simply ignored any outcomes of the discussions. Some Israeli interviewees indicated that

for Israeli politicians, supporting the GI may affect their political career negatively (IS2, 2016; IS6, 2016; IS11, 2016), with one of them referring to it as potential 'political suicide' (IS6, 2016). Referring to this point, IS11 (2016) indicated that while NGOs such as the GI do not have to commit to anything, if a politician takes a decision supporting the GI's vision, they could be assassinated.

The political context also plays a part, as another interviewee indicated that the current Israeli government is a right wing one and it would be difficult to find officials to move things forward (IS2, 2016). At the same time, however, one of the Palestinian interviewees assumed that 'the majority of Palestinians and Israelis accepted the guidelines of the Geneva Initiative without calling it the Geneva Initiative' (PA11, 2016). A similar point was echoed by an interviewee in Israel who indicated that while not admitting it officially, government staff often use the GI documents as a reference in its negotiations with Palestine (IS11, 2016).

This indicates that one of the main issues for most critics is related to the procedures and informal character of the GI rather than its contents. This perception is mirrored in the literature on the popular reaction in both countries to the presentation of the Geneva Accord in 2003 (Golan, 2004; Schiff, 2010). From the Israeli perspective, the GI documents are also a sensitive topic due to their reference to a two-state solution. This goes against the current political climate in Israel (IS6, 2016).

### Outputs and outcomes

The key output of the continued work of the GI since the publication of the Geneva Accord in 2003 has been the addition of 13 annexes in 2009. These annexes elaborate on different issues discussed in the main accord. The 13 annexes contain further details on border and security issues<sup>25</sup>, the status of Jerusalem<sup>26</sup>, refugees and mobility<sup>27</sup>, environment<sup>28</sup>, economy and the GI's link to the Arab Peace Initiative (GI, 2009a). The discussion in this chapter will focus on key factors that particularly influenced the Water Annex of the initiative.

The Water Annex is in many instances based on the UN Watercourses Convention, but includes blanks instead of numbers when it comes to the allocation of water resources (GI, 2009c; PA7, 2016). Additional issues to be tackled with regards to the Water Annex were summarised in a supplementary paper to the annex that was finalised in February 2015, including the following areas: 1) principles for the rightful re-division of the shared resources; 2) management of particular water resources as a single administrative unit; 3) cooperation on monitoring water flows

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<sup>25</sup> Annexes 1 till 3 on the International Verification Group, a corridor linking West Bank and Gaza, and overall security respectively

<sup>26</sup> Annexes 4 till 6 on the Inter-religious Council in Jerusalem, Jerusalem in general and the multinational presence at the Temple Mount, respectively

<sup>27</sup> Annexes 7 till 9 on refugees, designated roads and border crossing points respectively

<sup>28</sup> Annexes 10 and 11 on water and environment respectively

and quantities; 4) economic principles for sustainable and efficient use and management of shared water resources; and 5) mechanisms for regional cooperation (Huntjens, 2017).

On a more general level, the GI attempts to reframe the central issues of the peace process by discussing them in isolation from politics and creating alternative solutions to the prevailing official government positions (PA7, 2016; PA11, 2016). With regards to cooperation over water, the GI advocates a shift away from a zero-sum game approach related to fixed water allocations for each party and towards a mutual gains approach. The latter includes the multi-functional re-use of the same water quantity by different stakeholders and is thus not based on specific water shares for either one or the other party (Huntjens, 2017). The GI also puts emphasis on public awareness and support for their solution. Prior to the publication of the Geneva Accord in December 2003, for instance, copies of the document were distributed to all households across Israel and its text published in Palestinian newspapers (Schiff, 2010).

Although there is little optimism about any of the work being implemented on an official level in the foreseeable future, negotiators on both sides believe that the solutions presented in the Geneva Accords are, for the most part, acceptable by both peoples and provide a 'reference document' (PA11, 2016) for future negotiations in the context of a two state solution (Golan, 2004). RB2 commented that the wide dissemination of the Geneva Accords was significant in raising public awareness surrounding the principles of a two state solution, which were only vaguely discussed at the public level at the time given the parties' use of constructive ambiguity (RB2, 2017)

The Israeli lead negotiator Yossi Beilin stated that a short-term goal of the Geneva Accord in 2003 was to prove that there is a Palestinian partner to negotiate with and a possibility to come up with a plan on how to move forward (Schiff, 2010). This is indeed cited as one of the most important achievements of the Geneva Accord and continues to be a central signal sent by the GI (Golan, 2004; PA7, 2016).

With regards to more recent achievements, one Palestinian interviewee mentioned that the GI, and in particular its Palestinian side, the Palestinian Peace Cooperation, recently tried to spark discussions about revisiting the structure of the JWC, but without lasting success (PA12, 2016).



# Water in the Track II Geneva Initiative

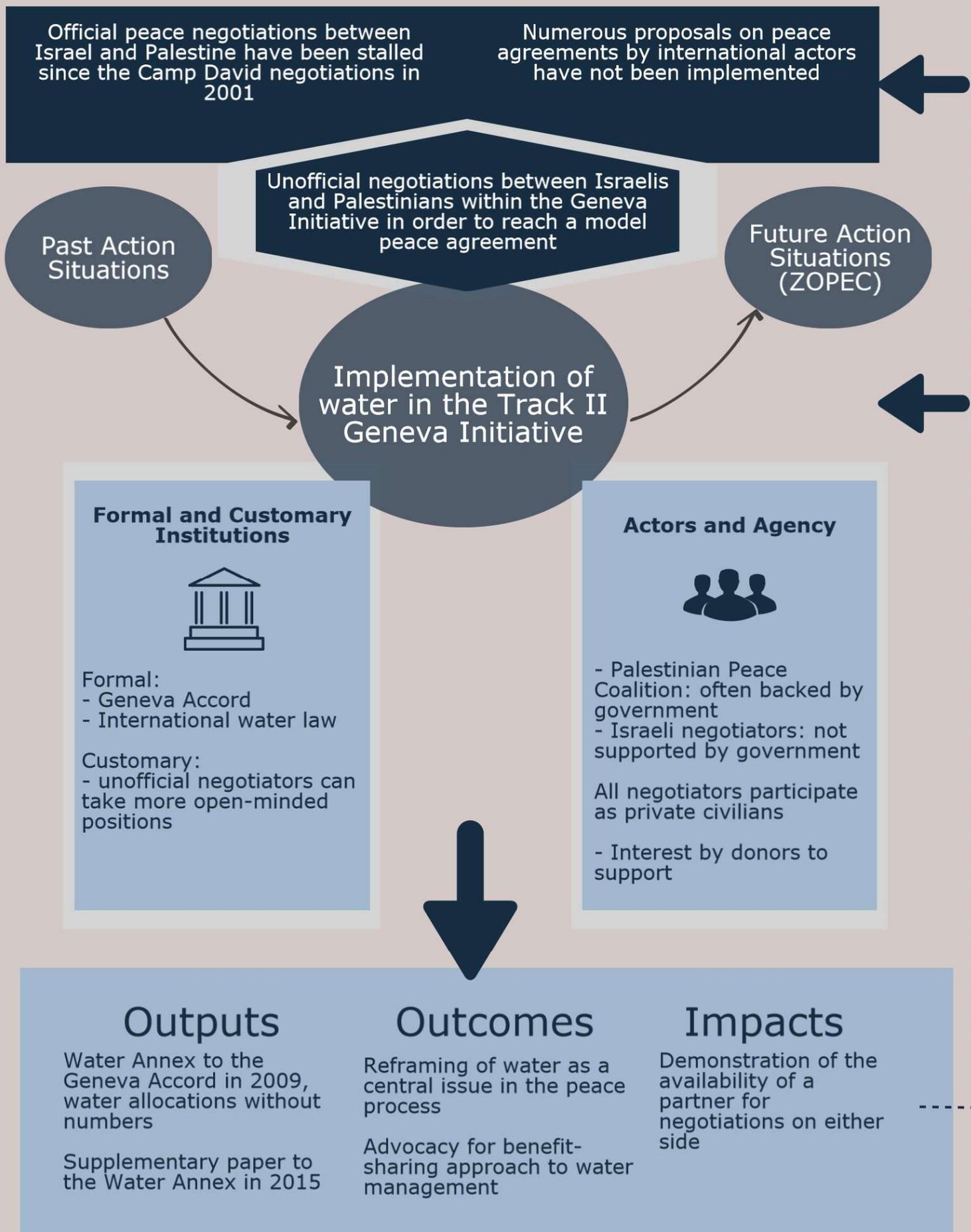


Figure 14: Factors affecting the implementation of water in the GI.

## 8.2 Factors affecting the cooperation

### 8.2.1 Contextual factors

The stalemate in the negotiations between Palestinians and Israelis sets the context for the Geneva Accords both in terms of the necessity to come up with a new solution to the gridlocked situation and in terms of reference documents that part of the Geneva Accord is based on.

The Clinton Parameters are comprised of a detailed plan for a two-state solution that Bill Clinton's administration drafted after the failing negotiations at Camp David and were delivered orally by the US president on 23 December 2000, just one month before the end of his presidency (Shlaim, 2002). The plan mostly focused on the two topics of the administration of Jerusalem and the question of refugees, for both of which Clinton was convinced that 'the remaining gaps have more to do with formulations than practical realities' (The White House, 2000) and that an agreement on these central issues was possible in time. He suggested dividing Jerusalem into an Arab part and a Jewish part, each belonging to their respective state, with different options possible for the Temple Mount<sup>29</sup>. Refugees would be allowed to return to the new Palestinian state or other countries including Israel with the latter being willing to accept some refugees while the agreement would not state a definitive right for refugees to return to Israeli areas (Shlaim, 2002). While the reaction to the Clinton's proposals was generally positive, both sides brought forward a number of reservations. Then Israeli Prime Minister Ehud Barak emphasised the Israeli objection to a right of return to Israel for Palestinian refugees and rejected any solution that would include Palestinian sovereignty over the Temple Mount (Ministry of Foreign Affairs, 2000). On the Palestinian side, the proposals were generally seen as too vague and, in parts, contradicting the Palestinian position in the peace negotiations (PLO Negotiations Support Unit, 2001). However, the Clinton Parameters sparked some new negotiations at Taba, Egypt, in late January 2001. The negotiation process came to a stop before an agreement could be reached when Barak lost the elections to Ariel Sharon in February (Shlaim, 2002).

The Arab Peace Initiative is a reference peace proposal by the Arab League that was adopted by its member states at the Beirut Summit on 28 March 2002. In it, the Arab states offer Israel the normalisation of diplomatic relations and an official end to the conflict between Israel and the different Arab states as soon as a peace agreement with Palestine is signed that meets a number of conditions. These conditions include 1) withdrawal from all Arab territories occupied by Israel after the 1967 war<sup>30</sup>, 2) a 'just solution' to the refugee issue, and 3) the acceptance of a newly established Palestinian State with East Jerusalem as its capital (European

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<sup>29</sup> The Temple Mount in the Old City of Jerusalem is referred to by Arabs as al-Haram al-Sharif. It is one of the holiest sites in the world to Judaism, Islam and Christianity, bearing amongst others the Al-Aqsa mosque and the Dome of Rock.

<sup>30</sup> Refers to Palestinian territories as well as the Syrian Golan Heights and some areas in the south of Lebanon.

Parliament, n.d.; Golan, 2004). The Initiative received broad international support, both at its adoption in 2002 and when the Arab League member states re-endorsed the proposal at a later summit in Riyadh in 2007 (BBC News, 2007) and in Jordan in 2017 (Kuttab, 2017). In the absence of a peace agreement between Israelis and Palestinian, however, the Arab Peace Initiative remains a proposal, aimed to serve as an incentive for Israel to engage in negotiations. In his latest comments on the Initiative, however, Israeli Prime Minister Benjamin Netanyahu stated in mid-2016 that while there were 'positive elements that can help revive constructive negotiations' in the Initiative, adjustments had to be made to the Arab League's conditions (Lewis, 2016).

The Middle East Quartet, established in 2002 and comprised of Russia, the United States, the European Union and the United Nations, is the other international key player in the Israeli-Palestinian peace process next to the Arab League. In addition to the Arab Peace Initiative, endorsed by the Quartet after its publication in 2002, the Quartet members also contributed their own vision in the form of a Roadmap that outlined a three-year process to be concluded by the establishment of a Palestinian state and the Israeli acceptance thereof (Tocci, 2013). The Roadmap was heavily based on a speech delivered by US President George W. Bush on 24 June 2002 in which he outlined his vision of a two-state solution. The Middle East Quartet added further provisions on central issues like the refugee and Jerusalem issues and included a timetable<sup>31</sup> for its implementation. Although both parties accepted the Roadmap – the Israeli government with a number of reservations –, neither of them engaged in the practical implementation of the Roadmap's first phase which included, among other aspects, the disarmament of (Palestinian) terrorist groups and the halt of Israeli settlement expansion (Golan, 2004).

### *8.2.2 Formal institutions*

The Geneva Accord is a model for a possible outcome of peace negotiations, agreed upon by non-governmental representatives from both Israel and Palestine. It is neither official nor binding in terms of international relations.

The original Geneva Accord from 2003 includes the following central principles:

- End of conflict. End of all claims.
- Mutual recognition of Israeli and Palestinian right to two separate states.
- A final, agreed upon border.
- A comprehensive solution to the refugee problem.
- Large settlement blocks and most of the settlers annexed to Israel, as part of a 1:1 land swap.
- Recognition of the Jewish neighbourhoods in Jerusalem as the Israeli capital and recognition of the Arab neighbourhoods of Jerusalem as the Palestinian capital.
- A demilitarised Palestinian state.

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<sup>31</sup> Later abated to be non-binding

- A comprehensive and complete Palestinian commitment to fighting terrorism and incitement.
- An international verification group to oversee implementation. (Geneva Initiative, 2003)

The Water Annex to the Geneva Accord is based on a number of principles brought up in the UN Watercourses Convention that entered into force in 2014. The re-allocation of water resources in the Geneva Accord, albeit not supported with concrete numbers, draws from the UN Convention's Article 5 on the Equitable and reasonable utilisation and participation and Article 6 on Factors relevant to equitable and reasonable utilisation, but puts an explicit focus on meeting the vital human needs of both peoples, as suggested in Article 10 on the Relationship between different kinds of uses in the UN Convention. The Water Annex' provisions on the avoidance of significant harm to the water resources and on the exchange of data and information are further based on the UN Convention's Articles 7 and 9, respectively. The establishment of a new JWC in order to monitor the use of the available resources by both parties and the overall agreement by the parties to collaborate on the management of shared resources finally meets the provisions of Article 8 on the General obligation to cooperate. The Geneva Accord thereby covers all general principles on the joint use of transboundary watercourses as outlined in Part II of the UN Convention (GI, 2009c; UN Watercourses Convention, 1997).

Within the follow-up project 'Vision on Water Within the Permanent Status Agreement', established by the GI in order to operationalise the Water Annex and address outstanding issues related to its implementation (Huntjens, 2017), it became clear, however, that there are still numerous aspects in the Water Annex in need of clarification or concretisation. This particularly relates to the proposed JWC, its enforcement of the rather broad 'efficient and equitable management' and the relation to the existing JWC (The Hague Institute, 2014).

### *8.2.3 Customary institutions*

As opposed to the official diplomatic channels where some issues cannot be discussed due to their delicate nature, prevailing national interests or the lack of trust between the negotiators, an interviewee stated that representatives within the GI were 'more free-minded' than their respective governments (PA11, 2016). According to the description of another interviewee, it was also easier to enter good relationships with their counterparts within the GI and to build trust between each other. This was possible because nobody was representing their government. With regards to building trust on the personal level, one of the Palestinian interviewees stated that '[g]overnments mean limitations' (PA9, 2016).

It was indicated by one Palestinian interviewee that the media in both Israel and Palestine was generally very hesitant to report on stories of successful transboundary cooperation. The people would therefore receive little information

about how cooperation is possible and that a peace agreement might even be achievable. They noted that it was thus important to show both countries that there is indeed the possibility to work together (PA9, 2016). With regards to the reaction to the initial Geneva Accords, another Palestinian interviewee recalled that the Israelis involved in the process were not just called out as traitors by government officials, but also attacked by Israeli media (PA11, 2016).

#### *8.2.4 Actors and agency*

In the Geneva process that led up to the initial Geneva Accords, the Palestinian side was represented by a group of officials, including ministers and members of the Palestinian Legislative Council, and scholars, supported and backed by the PA and its chairman Yasser Arafat. Albeit involved with the Palestinian government at this point and led by Yasser Abed Rabbo, at that point Minister for Information and Culture<sup>32</sup>, all Palestinian negotiators clarified that they were participating as private citizens (Schiff, 2010). Nowadays, the Palestinian side of the GI is organised in the Palestinian Peace Coalition and works rather closely with the Palestinian government and its Negotiation Support Units (PA7, 2016; PA11, 2016).

The Israeli side in the Geneva process was represented by a group of activists, scholars and opposition politicians (centre and moderate left Members of Knesset) under the leadership of former Member of Knesset Yossi Beilin. While they informed the Office of Prime Minister Sharon about the existence of talks surrounding the Geneva Accords, they did not pass on any further information and were not supported by Israeli authorities (Schiff, 2010). Israeli representatives involved with the GI afterwards used to have government positions in many cases, but are not involved with the Israeli administration at present (PA7, 2016; PA11, 2016).

While there were some international third parties involved in the initial Geneva process as observers and intermediaries, particularly Switzerland who facilitated and hosted negotiations, they were usually not involved in the negotiations content-wise (Schiff, 2010). The same is true for stakeholders who were involved in previous peace agreement proposals that the GI builds on, such as the Arab League and the Middle East Quartet. While their earlier work was included as reference agreements and proposals, negotiations were led by Israelis and Palestinians only.

### **8.3 Chapter conclusion and potential future cooperation**

In a political environment of distrust and stalemate in the official negotiations between Israel and Palestine, the GI shows possibilities for an agreement if these impediments did not exist. This unofficial setting opens the process up to the

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<sup>32</sup> Rabbo moved on to become Cabinet Affairs Minister in April 2003.

participation of a wider range of stakeholders from either side that goes beyond the usual official negotiation units involved in peace talks.

The proceedings surrounding the Water Annex show that agreements based on international law are possible as long as the concerns of both sides are sufficiently included. They also present a first shift in attitude from a zero-sum approach based on the quantitative allocation of water shares towards a mutual gains approach based on benefit sharing. This shift is illustrated by the lack of definite numbers in the Water Annex (GI, 2009c; Huntjens, 2017). However, reactions by some interviewees also showed that the lack of numbers on water allocation is still perceived as 'unfinished business' in need of further negotiations, indicating that a significant part of the Palestinian water sector currently shares a zero-sum mindset (PA1, 2016; PA7, 2016). A spill-over effect from the GI's approach towards other actors could thus open up an area for prospective cooperation based on benefit sharing rather than fixed allocations.

In the last of the 2009 Annexes to the Geneva Accord, the GI links to the Arab Peace Initiative as endorsed by the Arab League in Beirut 2002:

'With the implementation of this agreement as well as agreements between Israel and Syria and Lebanon, the Arab states under the Arab League will fulfil their commitment as stipulated for in the Arab Peace Initiative and establish normal relations with Israel. The establishment of normal relations will inaugurate a new era of peace and cooperation between Israel and every Arab state, and will include mutual recognition, the exchange of diplomatic representations between Israel and all Arab states, the establishment of commercial and trade relations as well as cooperation in areas of tourism, regional infrastructure, telecommunications, and more.' (GI, 2009b)

A peace agreement would thus not just be built on a bilateral accord, but also put in the context of regional collaboration and recognition. Additional stakeholders enter the arena with an interest for Palestinians and Israelis to uphold their peace.

With many positive signs sent by the GI about the possibilities of coming to an agreement, there is also the awareness that it is up to the two national authorities to make the next step in the direction of negotiations. The role of the GI and the prospects of its continuation on the official level was summarised by one interviewee:

'We are more or less governed with the reality on the ground, which is not helpful. The fact that there are no official talks between Palestinians and Israelis is an obstacle. The added value of the Geneva Initiative is in fact when there are peace talks, whatever we do will remain as a sort of reference document, and then it can be used, and we can be of added value the moment when there are official peace talks.' (PA11, 2016)

## 9. Action Situation 5: Regional NGO Master Plan

### 9.1 Action situation, outputs and outcomes

The Regional NGO Master Plan for Sustainable Development in the Jordan Valley is a series of reports on the rehabilitation of the lower part of the Jordan River Basin. It consists of three separate country reports (Israel, Palestine, Jordan) and a combined Jordan valley report, describing the current issues of land and water management, future perspectives and detailed propositions on sustainable development projects. The Plan was commissioned by WEDO/EcoPeace Middle East to a group of international consultants around the Dutch consultancy firm Royal HaskoningDHV in 2012. It was finalised and presented in 2015. The report addresses the following seven strategic planning objectives: 1) pollution control, 2) sustainable water management and river rehabilitation, 3) sustainable agriculture, 4) effective Jordan Valley governance, 5) ecological rehabilitation, 6) sustainable tourism and cultural heritage development, and 7) sustainable urban, energy and infrastructure development. A particular focus also lies on the re-establishment of the environmental flow in the Jordan River with regards to both water quantity and water quality (Royal HaskoningDHV & EcoPeace, 2015).

The progress of drafting and eventually finalising the different reports engaged stakeholders from various sectors including governments, civil society, local communities and business, providing feedback and self-reflection on assumptions and figures during workshops with these stakeholders (Huntjens, 2017; PA2, 2016). Next to presenting implementable rehabilitation projects, the regional NGO Master Plan also aimed at stimulating government officials of the different riparians to engage with each other in the realisation of regional projects (Huntjens, 2017).

Reactions to the regional NGO Master Plan among the Palestinian interviewees differ widely. While there is some praise for the technical aspects and the proposed projects in the report (PA8, 2016; PA9, 2016), criticism mainly revolved around the lack of a political perspective on the Jordan Valley and its related failure to address the root causes of the river's deterioration, which are stated as the unequal division of power and rights among the riparians (PA7, 2016; PA8, 2016; PA9, 2016; PA13, 2016). The division into Upper and Lower part of the Jordan River as north and south of Sea of Galilee, respectively, and the subsequent focus on the lower part of the Jordan River only was further criticised by two interviewees as being unsubstantiated from a hydrological point of view (PA4, 2016; PA12, 2016).

Interviewees in Israel were generally critical. Referring to the regional NGO Master Plan, some interviewees commented that the Plan's suggested amount of water to be released to the Jordan River is unrealistic considering the current situation (IS4, 2016; IS7, 2016). Another interviewee commented that the proposed river flow would only be available once new water resources have been developed in 10 to 20 years, and that it was a waste of time to talk about it now (IS9, 2016). A

government official indicated that 'EcoPeace wants something that we cannot deliver' (IS12, 2016). With regards to other points of criticism, an Israeli interviewee pointed out that EcoPeace was not serious enough about the refugee situation in Jordan which is causing water problems (IS2, 2016). Interviewees also commented that the regional NGO Master Plan was too much of an engineering report as it includes an extensive list of suggested interventions, many of them revolving around infrastructure projects (IS1, 2016).

In Jordan, the initiative of the regional NGO Master Plan has been received positively (JO2, 2016). The plan was drafted in coalition with the Jordanian Ministry of Water and Irrigation and was therefore said to really reach the government (JO4, 2016). According to one of the interviewees, the ministry is also already planning its implementation and is ready to work towards environmental rehabilitation in the Jordan valley in accordance to the plan (JO4, 2016). The same interviewee also expects a spill-over effect into other parts of the Jordanian society (JO4, 2016). Interviewees also welcomed the sharing of knowledge involved in the Plan (JO5, 2016), particularly with regards to the civil society as there are not many joint efforts including government and NGOs in the Jordanian water sector so far, even though both groups have very similar goals (JO1, 2016; JO3, 2016). JO7 (2016) pointed out that the regional NGO Master Plan is the only cross-border project that involves the Jordan River apart from Red Sea-Dead Sea project, which focuses primarily on the Dead Sea and not the Jordan River.

### Outputs and outcomes

The regional NGO Master Plan includes an extensive report on the environmental and socio-economic status quo in the lower part of the Jordan River Basin and a total of 127 project proposals aiming at the rehabilitation of the lower part of the Jordan River, encompassing a total investment volume of USD 4.5 billion. The proposals are subdivided into long-term interventions, based on the assumption of a two state solution orientated peace agreement between Israel and Palestine and to be implemented on both the regional and the national level, and short-term interventions, largely on the national level. Projects are proposed within each of the seven strategic planning objectives outlined above and include both pre-feasibility technical and the initial institutional perspectives required for their implementation. While the regional NGO Master Plan contains an overview of the annual costs for the entire project over the course of the planning period up until 2050, funding for the individual interventions needs to be secured independently (Huntjens, 2017; Royal HaskoningDHV & EcoPeace, 2015). According to an interviewee involved with the regional NGO Master Plan, only a fraction of the required funding for all interventions has been raised so far (RB1, 2016).

As the regional NGO Master Plan is based on a number of rather optimistic assumptions on the geopolitical future of the region, e.g. a two-state solution to the conflict between Israel and Palestine and imminent peace in neighbouring countries like Syria, the political prerequisites for the implementation of many

projects are additionally lacking (RB1, 2017). This is, according to RB1 (2017), however, in line with the overall aim of the regional NGO Master Plan to provide a vision for peaceful cooperation over resources rather than showing a realistic image of the current status.

Although the regional NGO Master Plan has not been officially endorsed by any of the riparian governments, the Jordanian National Master Plan for the Jordan River Valley was developed with support from the Jordan Valley Authority (EcoPeace, 2017a; Royal HaskoningDHV & MASAR Center Jordan, 2015). While many interventions identified in the Regional NGO Master Plan require political solutions over the Palestine-Israel conflict to take place prior to implementation, EcoPeace is currently working with each national government to move forward with 13 priority projects that can be implemented without waiting for a political solution (IS5, 2016).

There are diverse views related to the possible implementation of the Regional NGO Master Plan. According to one interviewee involved with the development of the regional NGO Master Plan, there are already governmental committees following up with the project proposals in all three countries (PA2, 2016). However, another interviewee stated that while there were meetings with government officials from all three riparians facilitated by EcoPeace shortly after the publication of the regional NGO Master Plan, no official action followed from any side as none of the governments formally endorsed the Plan (RB1, 2017). In Palestine, one of the interviewees additionally disputed the level of commitment on the official side to implementing the report's recommendations (PA1, 2016). Another Palestinian interviewee commented that the proposed projects in the regional NGO Master plan for the national projects were derived, at least for Palestine, from the national sectorial plans of the Government for the short-term period (PA4, 2016). An Israeli interviewee pointed to the fact that the level of support may be different depending on the government body, as not all ministries may have the same opinion about their support to the regional NGO Master Plan (IS2, 2016). Tal (2017) points out that Israel's Ministry of Environment and Society for Protection of nature in Israel supported an annual allocation of 192 MCM for the lower part of the Jordan River.

In Jordan, one interviewee mentioned that the Ministry of Planning was already collaborating with EcoPeace in order to plan the implementation of some of the measures suggested in the regional NGO Master Plan (JO4, 2016). While the Jordanian government and EcoPeace have not always agreed on the issues outlined in the Plan, they are now implementing more joint projects (JO7, 2016). This is not only to improve the Jordan Valley, but also to work on improving the social life of people (JO4, 2016). Another interviewee noted that thanks to the regional NGO Master Plan, the government was shown some problems that they may not have thought of earlier on (JO6, 2016).

On the regional level, governments are still executing different projects in the NGO Master Plan one by one, instead of via one joint organising body that implements the interventions in a central manner (JO2, 2016).

The regional NGO Master Plan received broad attention from the media and the governments over the course of being drafted up and presented, which EcoPeace regards as having had a direct impact on the authorities in viewing the Jordan Valley as one ecosystem and taking both national and regional actions (PA2, 2016). One of the Jordanian interviewees commented that many different people from the three riparians were brought together because of the regional NGO Master Plan (JO7, 2016). The same interviewee was also cautious though, indicating that this was not a substitute for Track I governmental interactions between the states that are involved (JO7, 2016).

The restoration of the environmental flow in the lower part of the Jordan River is a central objective of the regional NGO Master Plan. The proposed environmental flow regime for 2050 suggests releasing 238 MCM/year of water from Sea of Galilee, 12 MCM/year from the Valley of Springs, 8MCM/year from the Harod Spring, 8 MCM/year from Wadi Arab, 18 MCM/year from natural groundwater outflow in Israel and 5-6 MCM/year from Palestinian part of the valley (Royal HaskoningDHV & EcoPeace, 2015).

Israel is taking up a crucial role in releasing more water into the Jordan River instead of pumping it into their National Water Carrier from the Sea of Galilee. (Royal HaskoningDHV & EcoPeace, 2015). One interviewee suggested that a higher amount of water is expected to be possible if the environmental objective can be coupled with economic incentives (PA2, 2016). While the Israeli government has agreed to release more water into the river, it only amounts to 10 MCM per year so far, whereas the regional NGO Master Plan requires them to release 220 MCM per year (Gafny, Talozzi, Al Sheikh, & Yaari, 2010).

The targets for the environmental flow were criticised during some interviews as a political compromise instead of a sound scientific goal (PA13, 2016) and as missing the opportunity to address the humanitarian problem related to water in the Jordan Valley (PA8, 2016). One Jordanian interviewee appreciated that there are terms and numbers agreed on in joint discussions and that a lot of research has been done, which can be used by governments or other bodies to continue improving the region later on (JO6, 2016). An Israeli interviewee commented that there is a gap between what EcoPeace suggests (400 MCM) should be released and what the government can afford to release (40 MCM) (IS4, 2016). IS9 suggested that flow will come naturally once the water issue is solved through improved technology that can create new water, and it is a waste of time to discuss the flow now (IS9, 2016).



# EcoPeace's Regional NGO Master Plan for the Jordan Valley

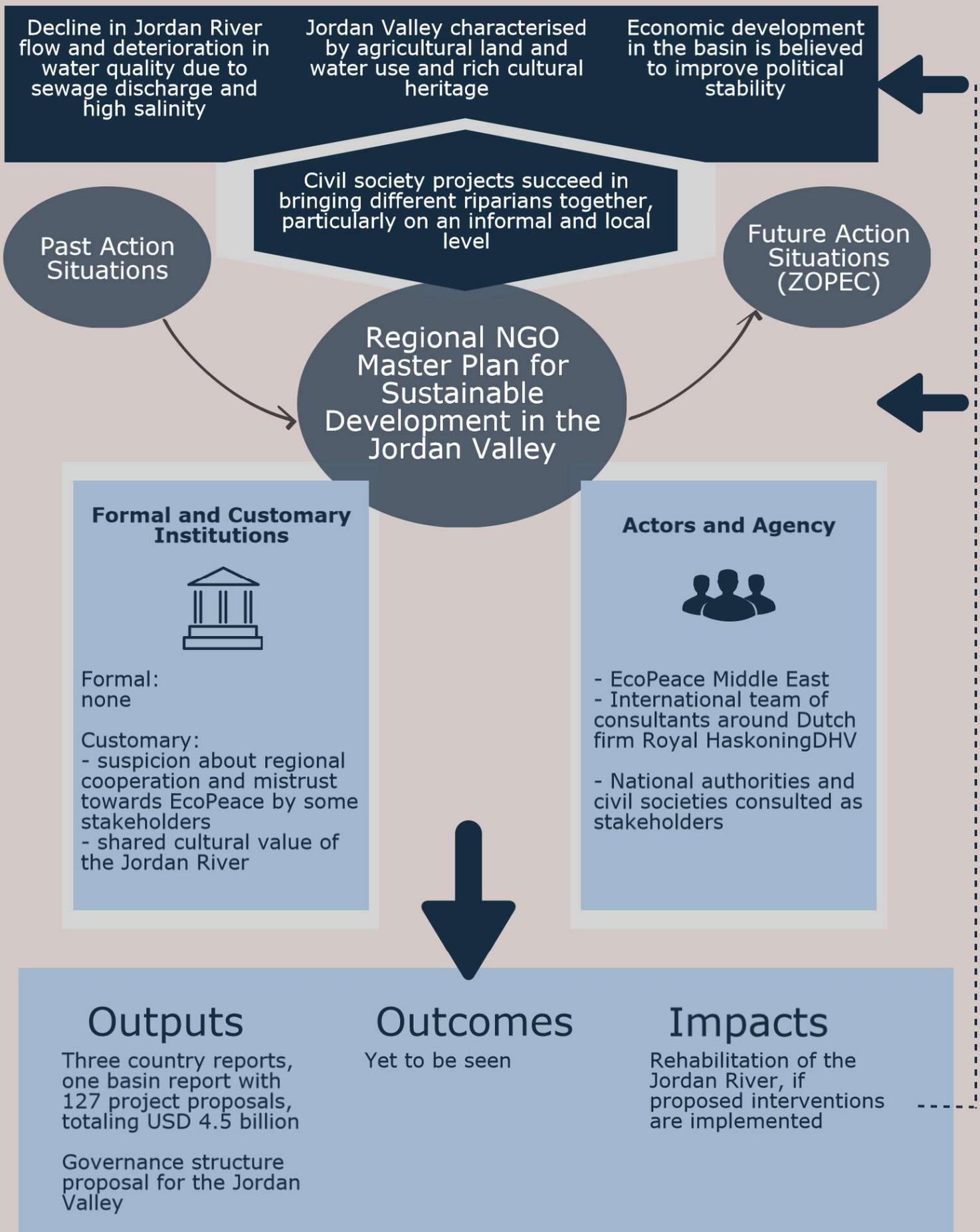


Figure 15: Factors affecting the cooperation surrounding the Regional NGO Master Plan for Sustainable Development in the Jordan Valley.

## 9.2 Factors affecting the cooperation

### 9.2.1 Contextual factors

The regional NGO Master Plan focuses on the lower part of the Jordan River Basin as defined as the river connecting Sea of Galilee and the Dead Sea, including the riparians Jordan, Israel and Palestine, as opposed to the entire basin including catchment areas in Lebanon and Syria. This might lead to problems when upstream riparians (Lebanon and Syria) undertake actions contrary to the regional NGO Master Plan that may have a negative impact on the rehabilitation efforts in the lower part of the Jordan River Basin because these riparians were not included in the process and agreements (Yaari, Neal, & Shubber, 2015).

The necessity for the rehabilitation of the lower part of the Jordan River is twofold: water quantity and water quality. The amount of water in the Jordan River that reaches the Dead Sea has decreased sharply over the past 70 years, from 1285 MCM per year in the 1950s and around 275 MCM at the beginning of the 21<sup>st</sup> century down to approximately 70-100 MCM nowadays (Gafny et al., 2010; Venot et al., 2008; PA6, 2016). This decrease is in large part due to the infrastructure development in the Jordan Valley, including the construction of several major water diversion schemes for irrigation and, particularly in the case of Israel's National Water Carrier, to transport water to drier areas of the respective countries.

Alongside the lower river flow, the development of large parts of the Jordan Valley as agricultural land and the overall riparian population growth have led to an increased influx of untreated or only partially treated wastewater into the river, particularly in the West Bank where the sanitation sector is still underdeveloped (Hillel et al., 2015). Hillel et al. (2015) found the nitrate level in the lower part of the Jordan River to be correspondingly elevated. The brackish nature of the groundwater, due to the prevailing limestone geology in the region, has had an additional deteriorating effect on the water quality. Next to making the river water unsuitable for almost any usage in agriculture or otherwise, the degradation of the water quality is also affecting the regional biodiversity which, according to estimates, has been reduced by approximately 50% throughout the lower part of the Jordan River Basin (Châtel, 2014; Gafny et al., 2010).

As JO6 (2016) points out, in order to reach peace, water facilities should be of good quality, but in order to have good water facilities in the broadest meaning of the word, peace is necessary. In this respect, the regional NGO Master Plan builds on the premise that economic development in the overall region will lead to political stability. Echoing this perspective, a Palestinian interviewee explained that the different riparians depend on each other's economic development for their own national security which will benefit from an increase in regional stability (PA2, 2016).

### 9.2.2 Formal institutions

The regional NGO Master Plan is based on a two-state solution in the Israeli-Palestinian peace process and assumes the establishment of a Palestinian state by 2020. This Palestinian state would be in full control of its natural resources. The report does not mention anything on how this two-state solution would be reached (Royal HaskoningDHV & EcoPeace, 2015).

Under the status quo based on Oslo II, Palestinians do not have physical access to the Jordan River and face administrative hurdles in the development of local infrastructure as all areas adjacent to the river are declared Israeli military zones, depicted in Figure 16 (World Bank, 2009). In the regional NGO Master Plan, this issue is assumed to be resolved in the peace process.

As a basin-wide document, the regional NGO Master Plan is not officially endorsed by any of the three governments. However, as remarked upon by several interviewees, the implementation of the majority of projects, such as the establishment of joint regional institutions, depends on the willingness of the authorities to back the project proposals (PA1, 2016; PA2, 2016; PA4, 2016). In

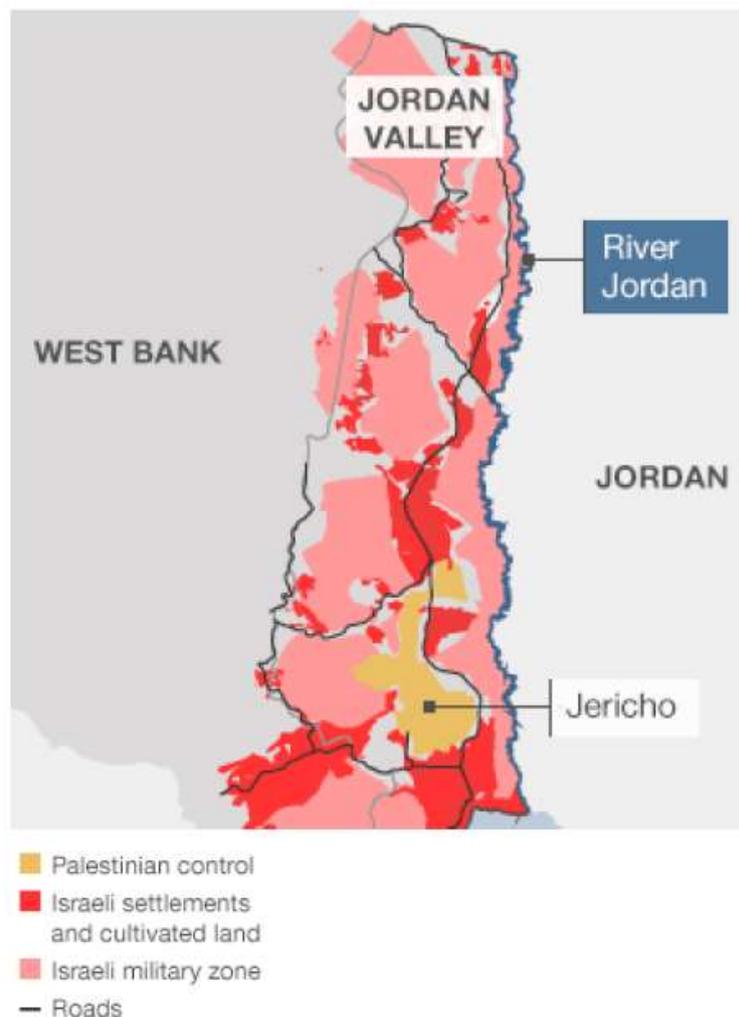


Figure 16: Territorial control in the Western Jordan Valley. Source: Royal HaskoningDHV and EcoPeace (2015).

Jordan, this willingness has increased over the past years and the government and NGOs agree with each other on all sides now. The regional NGO Master Plan thus received the buy-in from the Jordanian government (JO7, 2016) who has officially supported the National Plan (EcoPeace, 2017a; Royal HaskoningDHV & MASAR Center Jordan, 2015).

While the regional NGO Master Plan calls for the introduction of these joint regional institutions, interviewees additionally criticised that the lack of equal power and authority of the riparians made the just implementation of such institutions impossible. From the Palestinian perspective, properly realised water rights including access to and control over their natural resources are a prerequisite for joint and sustainable rehabilitation work on a regional level (PA4, 2016; PA6, 2016)

### *9.2.3 Customary institutions*

A number of Palestinian interviewees noted that EcoPeace and the Regional NGO Master Plan were accused of normalisation by some Palestinian actors as the projects suggested for Palestine in the short-term are designed to deal with the status quo (the occupation) rather than working towards Palestinian sovereignty (PA1, 2016; PA9, 2016; PA10, 2016). Additionally, one interviewee indicated that Palestinian trust towards EcoPeace was partially damaged by concerns of EcoPeace collaborating with Israelis too closely, a claim they supported by the fact that the EcoPeace main office is located in Tel Aviv (PA1, 2016). In Jordan, the issue of the status quo as a starting point also came up in an interview and there was criticism on this in the civil society. One of the interviewees stated that this was a difference between EcoPeace and other NGOs. EcoPeace was said to be willing to accept the status quo for the time being in order to come up with plans to improve the water supply on the short term. Other NGOs are not willing to meet with their Israeli counterparts because they feel the relationship is unbalanced, leading to a division between the two kinds of NGOs (JO2, 2016; JO3, 2016).

One Palestinian interviewee pointed out that in addition to the relation with EcoPeace, trust is also needed between the three riparians (Israel, Palestine, Jordan) in order to ensure sustainable cooperation over the lower part of the Jordan River. However, as has already been mentioned in the context of other action situations, this trust is currently lacking (PA9, 2016). Huntjens (2017) similarly points out that enhancing trust between stakeholders, both on the national and the transboundary level, was a central objective in the development process of the Regional NGO Master Plan. The 'general suspicion about regional cooperation' among stakeholders posed a challenge though. In this regard, Huntjens notes that the unofficial nature of the regional NGO Master Plan as opposed to a formal Track I agreement on transboundary cooperation was beneficial to the process and the inclusion of a multitude of stakeholders. This was also highlighted by one of the Jordanian interviewees. In the current situation, there is no formal institution that is backed by all the governments implementing the plan. This was also pointed out by one of the Jordanian interviewees who

commented on the fact there is currently no formal institution that is backed by all the governments implementing the plan (JO2, 2016). JO2 further commented on the fact when governments are represented in an institution that will take on the measures of the plan with mandates, action can be taken more easily. However, there is a tendency of the government to not want to give away any of its responsibilities, creating a situation where the civil society is not listened to enough, despite the knowledge it has on the subject. (JO2, 2016).

There are three baptism sites along the river – one at Al Maghtas in Jordan, one at Qasr al Yehud in the West Bank (operated by Israel) and one at Yardenit in Israel – that attract a great number of pilgrims each year (Châtel, 2014).

#### *9.2.4 Actors and agency*

EcoPeace Middle East, formerly Friends of the Earth Middle East, is a tri-lateral NGO, active in Israel, Palestine and Jordan with the goal of promoting regional cooperation over environmental issues and sustainable development. For EcoPeace, the latter goes hand in hand with the 'creation of necessary conditions for lasting peace' between the three countries (EcoPeace, n.d.a). In the words of one interviewee, EcoPeace as an NGO has the vision to solve the regional conflicts through a joint stance on environmental issues (PA8, 2016). Due to the fact that EcoPeace is active in all three countries, they have a lot of experience with the political difficulties in the region (JO6, 2016).

EcoPeace's projects usually combine top-down and bottom-up approaches by bringing together local experts from all three countries to develop a common vision on the transboundary issue at hand. This vision is then taken back to the respective domestic networks and presented to stakeholders on all levels (EcoPeace, n.d.a). In practice, this is not only about promoting cooperation, EcoPeace also seeks solutions to problems (JO6, 2016). As part of the civil society, the involvement of governmental actors is a high priority for EcoPeace, as remarked by an interviewee. While they are able to develop and coordinate tri-lateral projects, they lack the influence and mandate to push for the implementation of any of the aspects and project proposals outlined in the regional NGO Master Plan, particularly related to institutional arrangements. They thus depend on the national authorities to support their work (PA1, 2016). However, a Jordanian interviewee indicated that EcoPeace is one of the organisations that talks to the government and is the hub between the local communities on the one hand and the government on the other (JO6, 2016).

In addition to the concerns mentioned above with regards to informal institutions, two interviewees also criticised EcoPeace for being primarily composed of environmental activists rather than objective scientists, impacting the quality and political independence of their work (PA8, 2016; PA13, 2016). An interviewee from Jordan provided a less critical view towards EcoPeace, indicating that EcoPeace is the only civil society organisation that is doing something significant at the regional level (JO7, 2016).

The Dutch consultancy firm Royal HaskoningDHV was contracted to manage the study that led to the development of the regional NGO Master Plan. The company worked with local consultants involved with government projects in each country. These local consultants gathered input for the regional NGO Master Plan from their own networks (Royal HaskoningDHV & EcoPeace, 2015; PA2, 2016). The role of international consultants in general was viewed differently by interviewees. While one attested that international, and thereby external, actors had 'more credibility' and a higher chance to have their work accepted by all parties as it is showing 'the full picture' (PA2, 2016), another stated that external consultants were too disconnected from the region and would therefore be unable to understand the situation at hand and what was actually happening on the ground (PA13, 2016).

Within the individual country report projects, the inclusion of national stakeholders differed. The Israeli country report, for instance, was a product of the collaboration with the governmental rehabilitation of the Jordan River project which, in itself, coordinates with different actors from the three riparians (Huntjens, 2017).

With regards to the civil society in general, there is a large network of NGOs, some of which are working on the transboundary level. However, according to the accounts of two Palestinian interviewees, most NGOs are largely disconnected from their national authorities and the Track I diplomatic processes and therefore primarily involved in smaller grass-root projects. The resulting dissatisfaction with the lack of support by their national authorities leads to an increase in collaboration with international actors such as different UN organisations and many donor organisations (PA2, 2016; PA10, 2016). Other interviewees remarked that this increasing focus on attracting international funds would lead some NGOs to be increasingly diverted from their original goals of empowering the Palestinian people and creating advocacy and to instead become 'sort of a contractor [of international donors] rather than an NGO' (PA12 (quote), 2016; PA9, 2016; PA10, 2016).

In Jordan, the NGOs are looked at in a different way. JO1 (2016) commented that most NGOs have similar good intentions and that there should be more cooperation between them, allowing for the integration of their efforts and specialisations as well as sharing facilities. With many smaller NGOs this cooperation is already taking place, but still lacking for the larger ones (JO1, 2016; JO3, 2016). JO2 (2016) commented that governments can also have a role in this, allowing them to listen in on what civil society actors have to say, as NGOs have a lot of knowledge and experience (JO2, 2016). Another interviewee added that NGOs can generally facilitate the dialogue with different stakeholders (JO4, 2016).

The inclusion of new actors from the private sector by creating investment and business opportunities in the water sector is an important aspect of the Regional NGO Master Plan (Royal HaskoningDHV & EcoPeace, 2015; PA2, 2016).

Referring to the relationship between NGOs and the government, one of the Israeli interviewees mentioned that on the Jordanian side, EcoPeace is working well with the government, and that the government can use EcoPeace as a way to mobilise funds. In contrast, EcoPeace and the government in Israel 'do not see eye to eye'

as there are divergent views between the two: EcoPeace is concerned about the environment, whereas the government is concerned about the people (IS4, 2016). As the interviewee pointed out: 'EcoPeace wants to release 400 MCM into the river, but this poor lake is the only natural source for Israel for fresh water and we cannot give it up' (IS4, 2016). The Israeli government has not officially endorsed the regional NGO Master Plan. According to one of the interviewees, this is for political reasons as the Master Plan is based on Palestine being an independent state, which conflicts with the current Israeli political position (IS6, 2016). One of the critiques from the same interviewee was addressed to the director of EcoPeace personally, indicating that he is good at bringing money from Europe and the US, but not serious about solving the problem (IS6, 2016).

Raising funds is an important part of the overall Regional NGO Master Plan, as the bandwidth of interventions it proposes are connected to significant costs, expected to be in the range of USD 4 billion. JO2 (2016) indicated that donors are generally unwilling to give this amount of money to NGOs. In order to implement the numerous interventions, it is therefore important to have a joint government body that endorses the NGO Master Plan and oversees the implementation of individual projects (JO2, 2016; JO6, 2016).

### **9.3 Chapter conclusion and potential future cooperation**

The Regional NGO Master Plan emphasises a very optimistic perspective on the geopolitical situation in the Jordan Valley with its assumption of a two-state solution only being a matter of time and many project proposals based on a peace agreement being reached prior to their implementation. This stance was criticised by numerous interviewees as unrealistic. At the same time, however, this assumption allows the Regional NGO Master Plan to show possible means of cooperation in a context of peaceful co-existence of all riparians. A particular focus is on the creation of business opportunities and the inclusion of private sector actors from all riparian countries as a tool of transboundary cooperation that leans on technical solutions and shared economic benefits rather than political approaches in many instances.

The assumption of a peace agreement as a fundamental prerequisite for almost all regional project proposals also highlights the importance of a geopolitical solution prior to effective cooperation between the different riparians.

In the context of the regional NGO Master Plan, the role of the civil society was discussed by many interviewees from all three countries. They often stressed that civil society and governments need to improve their collaboration in order for the civil society to return to their initial advocacy functions and empowering local communities. With the low level of cooperation between civil society organisations (CSOs) and national authorities, many NGOs would focus on working with international organisations that, in some cases, are less concerned with the issues perceived as core problems by the Palestinian people. Additionally, the

involvement of governmental actors is often required for the implementation of certain project aspects that go beyond the mandate of the respective NGO. In the case of the NGO Master Plan, for instance, this refers to improvements in the governance structure. On the reasons for the lack of collaboration between governmental and non-governmental organisations, one interviewee stated that most government authorities would only get involved with projects that show a significant overlap with their own work, goals and principles. This was, however, typically not the case with projects by EcoPeace (PA4, 2016).

There is also disagreement on the role of the civil society with regards to transboundary cooperation. While multilateral NGOs like EcoPeace receive support from some parts of the Palestinian people, there are also initiatives like the Boycott, Divestment and Sanctions movement that take a hard stance against normalisation and collaboration with Israelis, particularly with Israeli settlers in the West Bank. These movements are not just concerned with Israeli actions, but are also 'watching carefully' (PA9, 2016) over Palestinian NGOs, monitoring potential cases of normalisation and accusing the activists and organisations involved.

One of the Jordanian interviewees commented on the need to establish a joint institution with government's backing that will implement the NGO Masterplans' interventions. This institution should be built on equal grounds (JO2, 2016).

As a follow up from the NGO Master Plan process, EcoPeace commissioned Stockholm International Water Institute to develop a draft proposal on the governance options for transboundary water management in the Jordan Basin (Yaari et al., 2015). The results of this study, informed by a small number of Track I consultation meetings with guiding inputs from EcoPeace Middle East staff, were presented at a regional conference in November 2016 (RB2, 2017).

## 10. Zone of possible effective cooperation (ZOPEC)

Literature on negotiation uses a term called 'zone of possible agreement (ZOPA)' referring to a set of possible agreements that are more satisfactory in terms of the perceived interests of each potential party than the non-cooperative alternative to agreement (Sebenius, 1992). The application of our analytical framework (Huntjens et al., 2016) to the Jordan Basin aims to support the identification of the possible areas of cooperation, not necessarily based on a specific agreement; hence, we adopt the term 'Zone of Possible Effective Cooperation' (ZOPEC) to illustrate the potential areas that could promote effective cooperation and bring benefits to all parties involved in managing the water. In our approach we consider the ZOPEC as a combination of viable future action situations (Huntjens et al., 2016).

In the past few years, there have been a number of key proposals on regional cooperation over water management in the lower part of the Jordan River basin. In addition to the GI and Regional NGO Master Plan discussed in Chapter 8 and 9, EcoPeace (at that point still called Friends of Earth Middle East/FoEME) published a proposal for water agreement between Israel and Palestine in 2010, further revised in 2012 after stakeholder consultation. This FoEME proposal<sup>33</sup> was originally drafted for the GI, however it was not adopted by them as GI stakeholders favoured a more traditional quantitative water allocation approach rather than the multiple use approach proposed in the FoEME proposal. EcoPeace still published the report as its own proposal (Brooks & Trottier, 2010a, 2012).

In order to identify the ZOPEC, the research team compared these pre-existing proposals (listed in Table 5) on different criteria and connected them to insights won from the previously analysed action situations. The proposals are compared to the following five criteria, as this review identified them as common themes recurring in all the proposals: 1) guiding principles; 2) approach to joint water management; 3) key prerequisites and assumptions; 4) river basin organisations (RBOs); and 5) stakeholder participation. The proposals are then set in the context of our previous analysis according to the building blocks of the Multi-Track Water Diplomacy Framework where we identify factors that have an impact on the feasibility of the proposals.

In addition to these proposals presented in Table 5, reference is made to national strategies of the relevant government where appropriate. Other proposals developed by academics in the region, such as Feitelson and Haddad (1998), were consulted as well.

The PWA has been advocating the idea of swapping water shares as a short to medium term solution for some years. In their Transboundary Strategy from 2013, they phrase the objective to 'examine the possibility of swapping water allocations

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<sup>33</sup> While FoEME is nowadays known as EcoPeace, we refer to the 2010 and 2012 proposals as 'FoEME proposal' to make a clear distinction from EcoPeace's more recent proposals in the context of the Regional NGO Master Plan.

under the Interim Agreement between basins' (PWA, 2013b, p. 3). In more detail, this swap would entail a trade of Palestinian water shares in the Eastern Aquifer, allocated in Oslo II, for shares in the Western Aquifer. As the accessible fraction of the Eastern Aquifer is already overexploited, the PWA hopes for the opportunity to develop new resources in the Western Aquifer instead (PWA, 2013b). There has, however, not been any progress in reaching an agreement on such a swap with Israel.

The Israeli government completed its master plan for the Jordan River and Environment in 2012. The plan includes landscape restoration, upgrading sewage treatment, returning flow to some of the streams and conducting flood control and irrigation. Kinneret Drainage and Stream authority completed its restoration plan for the Lower Jordan in 2015. This plan has its limited geographic scope, including an 11km stretch from Lower Jordan to the Yarmouk River. According to Tal (2017), the plan involves widening streams and dredging it, as well as including 400 MCM desalinated water to the Jordan River (Tal, 2017). A power point presentation in 2013 on The Lower Jordan Downstream Eco-tourism Rehabilitation Plan prepared by the Kinneret Drainage and Stream Authority includes a series of ecological rehabilitation, through the restoration of a meandering, slightly different approach to the plan adopted in 2015 (Kinneret Drainage and Stream Authority, 2013).

*Table 5: Proposals on regional cooperation over water in the Jordan River basin that are analysed in this chapter.*

Proposal	Year	Track	Parties included	Key publications
FoEME Proposal	2012	Track II	Israel, Palestine	Brooks and Trottier (2010a) Brooks and Trottier (2012)
GI Water Annex	2009	Track II	Israel, Palestine	Geneva Initiative (2009c) Shuval (2011)
GI Addendum to the Water Annex	2015	Track II	Israel, Palestine	Geneva Initiative (2015) The Hague Institute (2014)
Regional NGO Master Plan	2015	Track II	Israel, Jordan, Palestine	Royal HaskoningDHV and EcoPeace (2015) Yaari et al. (2015)

### Guiding principles

All proposals are roughly based on the same underlying principles and broadly overlap with the UN Watercourses Convention (see Table 6). Generally, they all refer to equal standing among all riparians, equitable and reasonable utilisation of the shared resources and the avoidance of significant harm to them, as well as joint monitoring mechanisms and the exchange of information between all parties.

Sustainability with regards to environmental and economic aspects is also prioritised by all initiatives (Brooks & Trottier, 2010a; Geneva Initiative, 2009c; Royal HaskoningDHV & EcoPeace, 2015).

The FoEME proposal additionally emphasises the importance of accepting and including informal local forms of water management that have been used for generations. It also gives priority to the management of water demand within each community, rather than the management and development of new water supply (Brooks & Trottier, 2012).

In addition to the guiding principles mentioned above, the GI Water Addendum stresses the need to jointly manage shared water resources 'as "one administrative unit"' according to principles agreed on between the riparians (Geneva Initiative, 2015).

Table 6: Guiding principles in the analysed Track II proposals.

FoEME Proposal	<ul style="list-style-type: none"> <li>• definition of water rights as bundle of rights/duties to access, use and treat water and to release (treated) waste water</li> <li>• equality in rights and responsibilities</li> <li>• priority to demand management over supply management</li> <li>• acceptance of the historic standing of local forms of management ('soft' or informal water rights)</li> <li>• continuous monitoring of quantity and quality in all shared waters and mediation among competing uses, demands and practices to ensure equity, efficiency and sustainability</li> </ul>
GI Water Annex	<ul style="list-style-type: none"> <li>• equal standing of both parties</li> <li>• equitable and reasonable utilisation</li> <li>• avoidance of significant harm</li> <li>• joint structures should ensure sustainability in terms of quantity, quality and environmental impact as well as efficient and equitable resource management</li> </ul>
GI Addendum to the Water Annex	<ul style="list-style-type: none"> <li>• In addition / continuation of 2009:             <ul style="list-style-type: none"> <li>• principles for the rightful re-division of the shared resources</li> <li>• management of particular water resources as a single administrative unit</li> <li>• cooperation on monitoring water flows and quantities</li> <li>• economic principles for sustainable and efficient use and management of shared water resources</li> <li>• mechanisms for regional cooperation</li> </ul> </li> </ul>
Regional NGO Master Plan	<ul style="list-style-type: none"> <li>• equitable and reasonable utilisation</li> <li>• sustainable development</li> <li>• avoidance of significant harm</li> <li>• intergenerational equity</li> <li>• exchange of data and information</li> <li>• management structures should be the result of a participatory, inclusive stakeholder dialogue</li> </ul>

## Joint water management

Following the shared underlying principles outlined above, all proposals explicitly or implicitly apply an Integrated Water Resource Management (IWRM) approach that emphasises a cross-sectoral policy approach, ensuring coordinated management of land and water related resources, and the aspects of equity, efficiency and sustainability (Molle, 2008). There is, however, stark disagreement with regards to the allocation of water rights and shares between the riparians (Table 7).

The NGO Master Plan does not go into detail on the allocation of water. Nevertheless, it points to the necessity to account for ecological needs related to the Jordan River rehabilitation and endorses the implementation of water evaluation and planning systems in the basin (Royal HaskoningDHV & EcoPeace, 2015).

The FoEME proposal and the two proposals by the GI go further into detail on how water resources should be shared and jointly managed between the riparians. Brooks and Trottier (2010a; 2012) strongly advocate to avoid quantitative allocations in the form of fixed amounts of water per riparian or as percentage shares. They criticise that the prevailing focus on quantitative water shares, termed as the 'divide and allocate approach' (Brooks & Trottier, 2010b, p. 105), led to the securitisation of water in riparians' narratives where access to the resource is seen as a matter of national security. Instead, the FoEME proposal aims at the de-nationalisation and de-securitisation of water and its uses. In place of a zero-sum approach in which the water allocated to one riparian is lost to the other, mutual gains from the same water quantity are to be shared between the riparians. The proposal also strives for a flexible management system that allows for adjustments to future changes in water availability, technology or socio-economic development (Brooks & Trottier, 2012).

As a consequence, the FoEME proposal does not include quantitative water allocations, but rather a joint water management scheme that is designed to allow the same amount of water to be used multiple times by different riparians. It proposes the implementation of a joint institutional structure that is continuously tasked with peaceful conflict resolution over water resources, which, in Brooks and Trottier's (2010b) view makes the strict allocation of water shares unnecessary. Similarly, they do not define water rights as the access to a certain water quantity, but as a broader bundle of rights and duties to access and use the available water and to set and uphold quality and quantity standards (Brooks & Trottier, 2010b).

Shuval (2011) criticises this approach as 'unworkable and unacceptable' (p.148) to both the Palestinian and the Israeli government. Both parties, he continues, could only accept an agreement that ensures that each of them keeps sovereignty over their resources and allows them to know the details on water rights and allocations before signing. This perspective was shared by other contributors to the proposal that eventually became the GI Water Annex. Consequently, the Water Annex follows a quantitative approach, although detailed numbers on resource

allocation were left blank in the 2009 version as they were supposed to be negotiated at a later point (GI, 2009c). The important role of an extensive joint water management scheme, envisioned by the FoEME proposal to replace strict allocations, was also acknowledged by the contributors to the GI Water Annex. However, such structures would have to be jointly built step by step after an initial agreement was signed, as opposed to the introduction of the complete scheme from the beginning (Shuval, 2011). A similar approach was taken by Feitelson and Haddad (1998) who envision a 'flexible-sequential implementation' of cooperation mechanisms between Israelis and Palestinians. This would initially entail the establishment of joint institutional structures focused on individual tasks and objectives and only later be transformed into more extensive structures based on the further development of cooperation. The existing JWC is criticised in this context as having been tasked with too broad a range of issues in Oslo II (Feitelson & Haddad, 1998).

By 2015, when the GI Water Addendum was released, the GI had shifted its focus. Instead of on water allocation itself, the emphasis in the Water Addendum lies with the sharing of benefits derived from using the water. Similarly to the FoEME proposal, a multi-use approach is applied to the shared water resources (GI, 2015).

Table 7: Approaches to joint water management applied by each proposal.

FoEME Proposal	<ul style="list-style-type: none"> <li>• avoid quantitative allocations (both fixed amounts and percentage shares, both static and regularly reviewed); however, some allocations are necessary to distinguish between shared and non-shared resources</li> <li>• ongoing joint management structure that allows for continuous conflict resolution</li> <li>• de-nationalisation and de-securitisation of water and water uses</li> <li>• multi-use and mutual gains approach</li> </ul>
GI Water Annex	<ul style="list-style-type: none"> <li>• quantitative allocations as basis of joint management are necessary in order to allow each party to keep sovereignty over their resources</li> <li>• comprehensive joint management structures have to be built step by step after an initial agreement is signed</li> </ul>
GI Addendum to the Water Annex	<ul style="list-style-type: none"> <li>• focus on sharing the benefits derived from the use of water rather than the allocation of water itself</li> <li>• joint development of monitoring program for quantity and quality usage by both parties</li> <li>• application of economic principles to sustainable and efficient use: full cost recovery, harmonisation of water pricing</li> <li>• combination of quantitative approach for delineating which waters are shared or not-shared and a multi-use approach for shared waters being treated as 'one administrative unit'</li> </ul>
Regional NGO Master Plan	<ul style="list-style-type: none"> <li>• enable more efficient and beneficial water economy &amp; rehabilitation of ecological values</li> <li>• evaluation and planning systems in use</li> </ul>

This shift in perception of joint water management came about over a series of stakeholder workshops and discussion rounds, involving both political and non-political actors (Huntjens, 2017).

The development within the GI mirrors a greater trend of shifting from a quantitative zero-sum approach to mutual gains and multi-use approaches. This trend is particularly visible in Track II processes, such as the different initiatives introduced in this chapter (see also Huntjens & de Man, 2017). However, it was also referred to in the draft for the new Transboundary Strategy by the PWA, which lists the objective of exploring possibilities of shared benefits in the region (PA5, 2016), thus being taken up in Track I processes as well.

Key prerequisites and assumptions

Key assumptions in the different proposals primarily revolve around the diplomatic situation between Israel and Palestine (Table 8). The GI proposals are formulated as part of the Geneva Accord and thus assume the acceptance of said accord as an outcome of final status negotiations between Israel and Palestine. Similarly, the joint management envisioned in the NGO Master Plan is based on a two-state solution between Israel and Palestine.

With regards to the FoEME proposal, Brooks and Trottier (2012) state that a final status agreement between Israel and Palestine is not per se required for the proposal’s implementation but might also be a consequence of the joint management practice. They do, however, presume prior agreements on borders, Israeli settlements in the West Bank and the status of Palestinian refugees (Brooks & Trottier, 2010a). Yet these agreements are unlikely to be reached outside of formal peace negotiations. Additionally, the proposal assumes a ‘sufficiently developed political, administrative and financial base in Palestine’ (Brooks & Trottier, 2012, p. 23) on which the agreement can be implemented. This is not made conditional on an already existing Palestinian State, however (Brooks & Trottier, 2012).

*Table 8: Key prerequisites and assumptions in each proposal.*

FoEME Proposal	<ul style="list-style-type: none"> <li>• prior solutions on borders and refugees between Israel and future State of Palestine</li> <li>• final status agreement is not a prerequisite, but rather assumed to follow the implementation of this proposal</li> </ul>
GI Water Annex	<ul style="list-style-type: none"> <li>• acceptance of the Geneva Accord as final status agreement by both parties</li> </ul>
GI Addendum to the Water Annex	<ul style="list-style-type: none"> <li>• same as GI Water Annex</li> </ul>
Regional NGO Master Plan	<ul style="list-style-type: none"> <li>• final status agreement between Israel and Palestine leading to a two-state solution</li> <li>• improvement of the regional security situation in the Middle East as such and return of refugees to their home countries</li> </ul>

The proposals thus agree that there needs to be at least some sort of negotiation process to settle some of the most important issues before joint water management mechanisms can be implemented. In all likelihood, this negotiation process should result in a permanent status agreement between Israel and Palestine prior to the establishment of joint institutions. The definition of borders is seen as a particularly important prerequisite as it influences the designation of water resources as shared (Brooks & Trottier, 2010b).

River basin organisations

All proposals agree that there is a basic need for an effective RBO in the Jordan River basin. The detailed design and allocation of mandates to different bodies, however, varies between the envisioned organisations; for an overview see Table 9 at the end of this section.

The FoEME proposal includes an extensive organisational scheme for the joint water management with two central bodies: the Bilateral Water Commission and the Water Mediation Board. Although the proposal only includes Israel and Palestine, Brooks and Trottier (2010b) state that additional parties could be involved in the RBO setup without greater effort. Figure 17 and Figure 18 show the detailed structure and related activities of the proposed organisation, respectively.

The Bilateral Water Commission is intended to replace the Israeli-Palestinian Joint Water Committee. It decides over future resource development and issues project permits, re-allocates water as appropriate and sets standards for water quantity and quality. All of these decisions are based on the recommendations of the Office of Scientific Advisors, a new body comprised of experts from both parties (Brooks & Trottier, 2010a). The new Water Mediation Board’s main task is to mediate

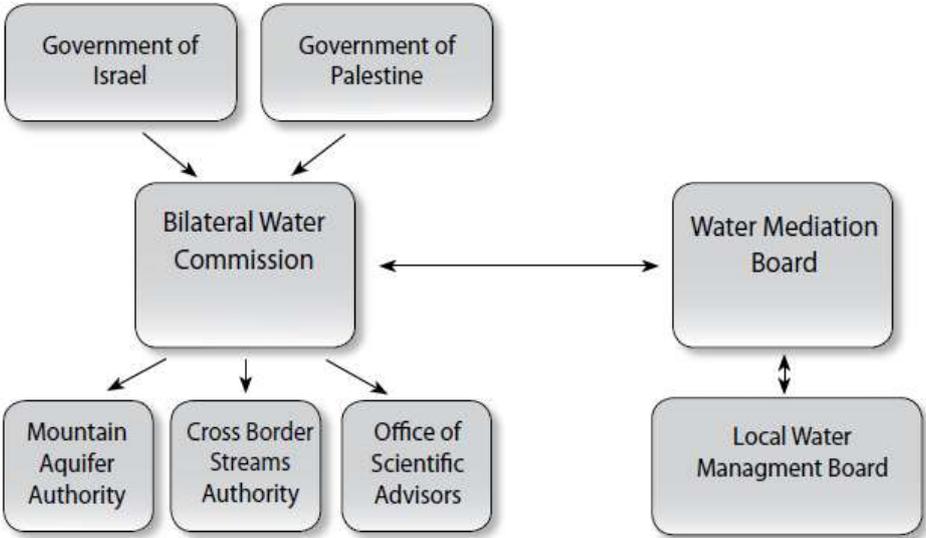


Figure 17: Organisational structure of the FoEME proposal's RBO. Source: Brooks and Trottier (2012).

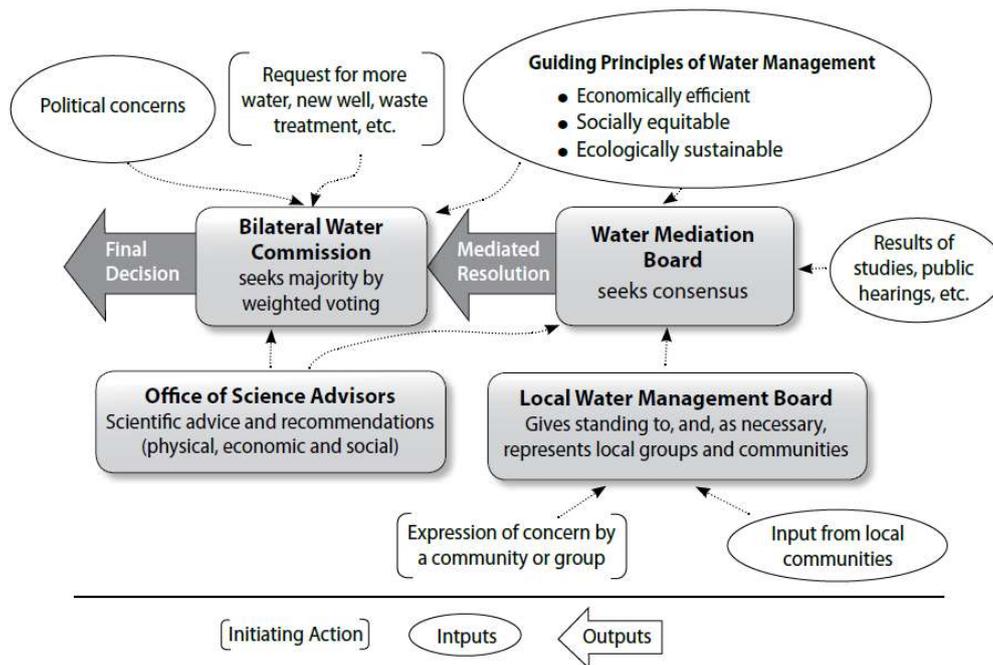


Figure 18: Activities and decision making processes within the FoEME proposal's RBO. Source: Brooks and Trottier (2012).

between parties and to seek consensus on matters of disagreement between different stakeholders. Both parties are sending an equal amount of representatives onto the Board, nominated by the respective Ministries of Justice. It is noteworthy that while the 2010 version of the FoEME proposal includes a direct link between the riparians' governments and the Mediation Board, this link has explicitly been removed in the revised 2012 version. While Brooks and Trottier do not explain the reasoning behind this change in power dynamics within the setup, it is a consequence of the stakeholder consultation that took place in between the publication of their 2010 paper on the FoEME proposal and the 2012 version (Brooks & Trottier, 2012). A number of smaller authorities and agencies are included in the organisational setup. The Local Water Management Board is of particular importance as it provides representation to small-scale and informal management schemes throughout the basin (Brooks & Trottier, 2010a).

The GI Water Annex includes the establishment of a JWC between Israel and Palestine. As opposed to the current JWC, this Commission does not directly coordinate the resource development and thus does not grant or refuse project permits. Instead, it primarily monitors and reports on water withdrawal and pollution by all parties, and establishes homogeneous standards and databases (GI, 2009c). This setup remains unchanged in the 2015 Addendum to the Water Annex (GI, 2015).

The NGO Master Plan includes a regional intervention aimed at the establishment of a transnational Jordan River Basin Organisation (JRBO), including all three riparians to the lower part of the Jordan River (intervention IC01 REG). The RBO's goal is to foster cooperation over water management through coordinated,

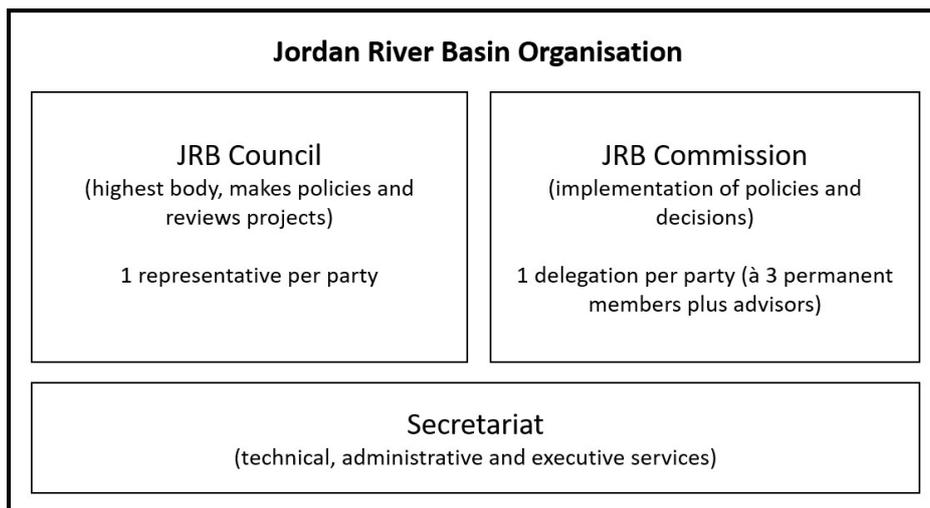


Figure 19: Jordan River Basin Organisation as outlined by Yaari et al. (2015).

transparent and democratic processes under the principle of 'one river, one management' (Royal HaskoningDHV & EcoPeace, 2015; Yaari et al., 2015).

Yaari et al. (2015) provide insight into the possible design of this organisation, shown in Figure 19.

While they note that the detailed mandates of each body within the RBO are still up for discussion in extensive stakeholder consultations, Yaari et al. (2015) distinguish between a Council that sets policies and oversees the coordinated water management efforts by each party, and a Commission that is tasked with the implementation of the Council's decisions and works closely with the different parties.

The need for a new, more effective RBO to replace the current Israeli-Palestinian JWC is commonly brought up in official Palestinian policy reports and sector strategies. They do not, however, include specific propositions on its design or mandate (PWA, 2013a, PWA, 2013b).

During a round table on new architecture for the Middle East, at the Royal Scientific Society in Amman on 22-23 February 2017, the Jordanian prince Hassan bin Talal commented on the need for a regional cooperation over water management in the Jordan River basin and beyond. He recommended the formation of a Regional Cooperation Council for the Sustainable Management of Water Resources that would involve governments as well as civil society and academia actors (Strategic Foresight Group, 2017).

Table 9: Mandate of the different river basin organisations outlined in each proposal.

FoEME Proposal	<ul style="list-style-type: none"> <li>• Bilateral Water Commission: decisions over permits for resource development, re-allocation of water and limits and standards for water quantity and quality, all based on scientific advisors' recommendations</li> <li>• Water Mediation Board: seek consensus and mediate between parties, particularly if decision within BWC is not possible</li> <li>• Office of Scientific Advisors: advice and recommendations, e.g. on standards and guidelines</li> <li>• Local Water Management Board: representation of local communities and management schemes</li> </ul>
GI Water Annex	<ul style="list-style-type: none"> <li>• JWC: <ul style="list-style-type: none"> <li>• re-adjusting water shares in case of significant deviations in climatic/hydrological conditions from base year</li> <li>• monitoring and inspecting water withdrawal and pollution</li> <li>• harmonising standards for wastewater treatment</li> <li>• establishing technical committees and databases</li> <li>• report on water quantity and quality</li> </ul> </li> </ul>
GI Addendum to the Water Annex	<ul style="list-style-type: none"> <li>• same as GI Water Annex</li> </ul>
Regional NGO Master Plan	<ul style="list-style-type: none"> <li>• JRBO in general: <ul style="list-style-type: none"> <li>• ensure coordinated water resource and quality management between the riparians while addressing social and economic needs of each riparian</li> <li>• enable joint development and management of the river and water resource infrastructure</li> <li>• foster cooperation over water management through coordinated, transparent and democratic processes under the principle of 'one river, one management' and develop joint policies</li> </ul> </li> <li>• JRB Council: highest body within JRBO, makes policies and reviews project applications</li> <li>• JRB Commission: implementation of policies and Council decisions</li> </ul>

### Stakeholder participation

Stakeholder participation refers to two different situations in the proposals discussed in this chapter: the involvement of stakeholders in the process of drafting up each proposal, and within the respective proposed institutional arrangements.

The regional NGO Master Plan is based on stakeholder consultation over the course of several workshops in all three countries as outlined in Chapter 9 (Huntjens, 2017; Royal HaskoningDHV & EcoPeace, 2015). In contrast, consultation on the more detailed proposal on the JRBO by Yaari et al. (2015) included very limited stakeholder involvement that mainly included selected consultations with

government officials, with a particular focus on the financial chapter (RB2, 2017). Instead, Yaari et al. (2015) present a rather generic approach to joint management which is intended to be fine-tuned in an extensive stakeholder consultation process later on.

Details on stakeholder involvement in the GI were given in Chapter 8. In 2009, a number of annexes were added to the original Accords that deal with additional issues such as water and economy (GI, 2009a). In 2015, the GI organised a series of meetings with a variety of stakeholders and experts to address outstanding issues not included in the GI Water Annex, which resulted in the Addendum to the Water Annex (GI, 2015; Huntjens, 2017).

The FoEME proposal was drafted by David Brooks and Julie Trottier in collaboration with two academic advisors each from the Israeli and Palestinian sides (Shuval, 2011). In 2010, Brooks and Trottier brought out their document in East Jerusalem at a conference organised by EcoPeace. Based on the comments received during this conference, they published a revision version in 2012.

With regards to stakeholder involvement in the proposed institutional arrangements, there is a general acknowledgement by all initiatives that broad stakeholder involvement is important for a successful management of shared resources. Nevertheless, the amount of detail that is explicitly given on the inclusion of a variety of actors such as CSOs or local management schemes varies widely (Table 10).

The GI Water Annex states that relations between government agencies and local water management instances are to remain as state affair for each riparian. (GI, 2009c). In the FoEME proposal on the contrary, local water management schemes are explicitly involved in the RBO via the Local Water Management Board (Brooks & Trottier, 2010a). Yaari et al. (2015) only include the representation of CSOs in their organisational arrangement. With regards to the inclusion of regional populations in the policy processes, however, the NGO Master Plan itself puts a focus on the subsidiary principle, meaning that decision making and empowerment processes should take place at the administrative level corresponding to the issue's scale. Local issues should thus be dealt with and decided upon on the local level. Regional steering committees for the coordinated implementation of different river rehabilitation interventions are further advocated for (Royal HaskoningDHV & EcoPeace, 2015).

The inclusion of non-governmental or private sector stakeholders in RBOs is not explicitly mentioned in any of the proposals, except for the representation of CSOs in Yaari et al. (2005)'s work.

Within the different bodies of each proposed RBO, attention is paid to equal representation of all parties. All joint organisations in the FoEME proposal are made up of an equal number of representatives from each side, with the exception of the Bilateral Water Committee which consists of three member from either side plus one neutral member from a third country, elected by the remaining six members (Brooks & Trottier, 2012). The JWC in the GI Water Annex is made up

of seven members in the same way as the Bilateral Water Committee, comprising of three Israelis, three Palestinians, and one member of another nationality (GI, 2009c). The Council and the Committee of the JRBO, as proposed by Yaari et al. (2015), are both made up of equal numbers per riparian.

Table 10: Stakeholder participation in joint management schemes per Track II proposal.

FoEME Proposal	<ul style="list-style-type: none"> <li>• parties involved: Israel, Palestine</li> <li>• local water management structures are involved via the Local Water Management Board</li> <li>• joint organisations are made up of equal numbers of each side's representatives</li> <li>• no particular mention of the inclusion or participation opportunities of non-governmental stakeholders in the RBO</li> </ul>
GI Water Annex	<ul style="list-style-type: none"> <li>• parties involved: Israel, Palestine</li> <li>• JWC is made up of equal numbers of each side's representatives</li> <li>• relations between government level and local level remain national affairs</li> </ul>
GI Addendum to the Water Annex	<ul style="list-style-type: none"> <li>• same as GI Water Annex</li> </ul>
Regional NGO Master Plan	<ul style="list-style-type: none"> <li>• parties involved: Israel, Jordan, Palestine</li> <li>• JRBO bodies are made up of equal numbers of each side's representatives</li> <li>• Jordan River Council is to review the inclusion of governmental and non-governmental organisations into the JRBO</li> <li>• use of regional steering committees for individual projects</li> <li>• application of the subsidiary principle</li> </ul>



# Zone of Possible Effective Cooperation (ZOPEC)

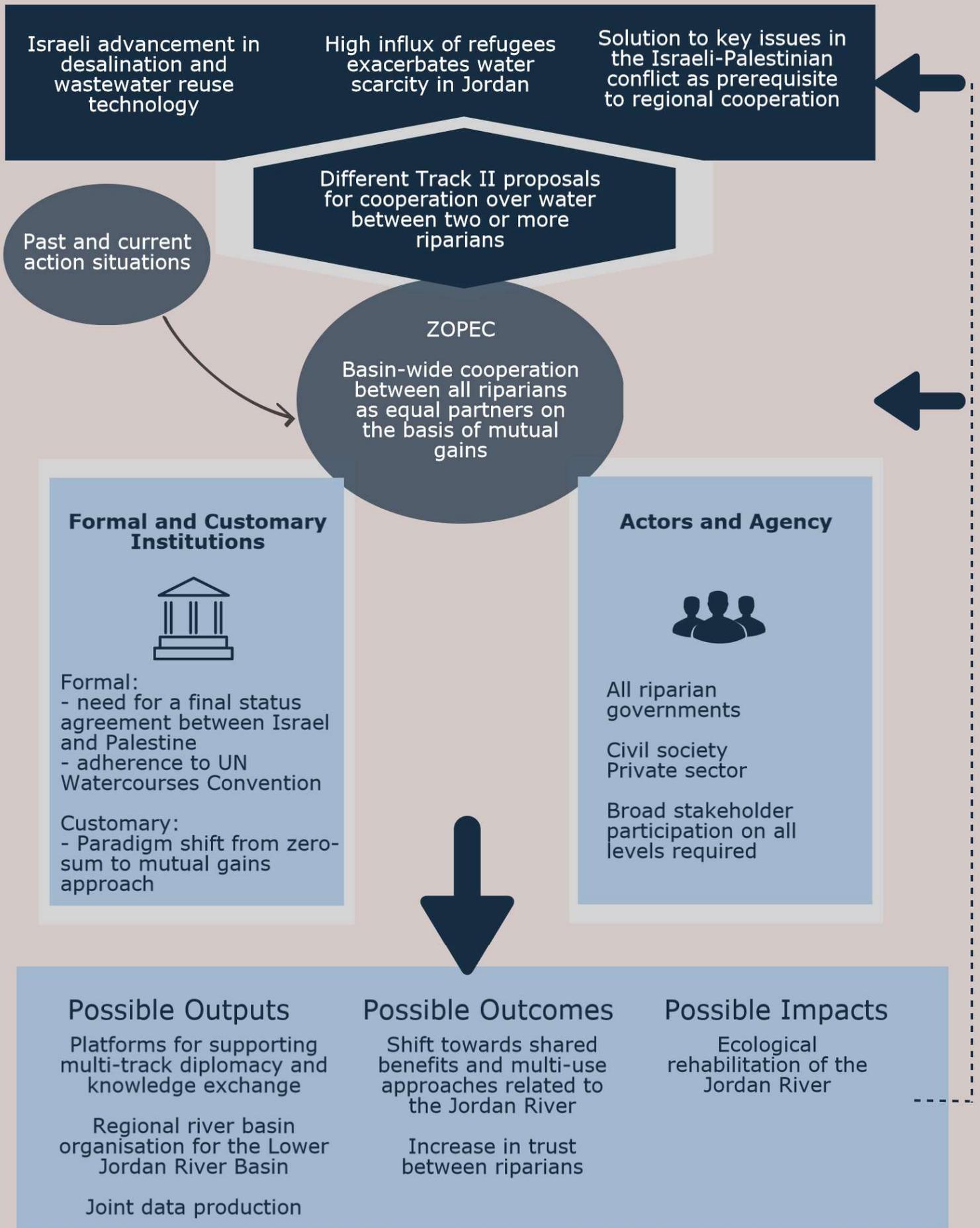


Figure 20: Factors affecting the Zone of Possible Effective Cooperation (ZOPEC).

## 10.1 Factors affecting the cooperation

### *Contextual factors:*

The Israeli advancement in desalination technology opens up the development of new resources. At present, four desalination plants along the Mediterranean coast provide around 55% of the Israeli domestic water demand (600 MCM per year), with a fifth one going online in 2017 and another five plants planned to be operational by 2025 (Jacobson, 2016; Rinat, 2017). One Israeli interviewee even stated that this technological progress allows Israel to solve its water problems entirely (IS6, 2016). Alongside the steady increase in quantity of desalinated water Israel, a number of studies ordered by various ministries are also under way related to potential impacts of the desalination process, e.g. due to the discharge of highly concentrated brine, and the use of desalinated water, e.g. in relation to the lack of nutrients (Jacobson, 2016).

While the production and sharing of desalinated water in transboundary projects like the Red Sea – Dead Sea Project between Israel and Jordan is detailed in the accompanying agreements, the role of unilaterally produced desalinated water is less clear (Feitelson & Rosenthal, 2012). The increasing Israeli desalination capacity along the Mediterranean coast, and associated cost reduction enables Israel to gradually shift from using conventional water resources like the Jordan River and the Mountain Aquifer. This could open up additional water available to the other riparians. It also increases political opportunities for water transfers to Israel's neighbours. Feitelson and Rosenthal (2012) suggest that, if issues such as production costs and storage capacities are addressed and solved between the riparians, there are 'positive sum options' available to the region (p. 283).

Similarly, Aviram, Katz, and Shmueli (2014) highlight the desalination's potential to lead to a shift in perspective towards a mutual benefits approach based on treating water as a commodity for exchange between riparians. They base this on the notion of desalinated water being produced, rather than a natural occurrence, and thus not being treated as public good. The Red Sea – Dead Sea Project is a prominent example of transboundary cooperation over desalinated water resources that could potentially lead to mutual benefits. The agreement between Israel and Jordan over swapping desalinated water quantities in the south for additional quantities in the north allows both parties to obtain water at lower costs than if they had to transport it to the respective area themselves (Aviram et al., 2014).

Next to desalination, the other important non-conventional water resource in the region is treated wastewater. Israel is one of the leading nations in the re-use of wastewater for agriculture (Rinat, 2015), and Jordan has been requiring farmers to use treated wastewater for irrigation whenever possible for several years (JO8, 2017). Palestinian use of treated wastewater is primarily limited to a small fraction of the total produced sewage by the lack of infrastructure (PWA, 2013a). The insufficient wastewater treatment capacity in Palestine has been linked to problems with getting projects approved in the JWC (Selby, 2013; World Bank, 2009).

Jordan has experienced a high influx of refugees over the past years, particularly from Syria. This influx has put an additional strain on the scarce water resources within Jordan (Khamis, 2015). A regional expert argued that this has led the Jordanian government to focus their efforts on increasing the water supply to communities and refugee camps by investing in large infrastructure projects like the Red Sea – Dead Sea Project and cooperating with neighbouring countries over additional water resources. They expect this trend of urgency to persist as long as the greater region remains politically unstable (RB1, 2017).

*Formal institutions:*

In the absence of a peace agreement between Israel and Palestine, there are a number of formal institutions that need to be accounted for. The Oslo II Agreement is most likely going to remain in use until a new agreement has been reached. According to the prevailing political dynamics in both countries, however, a timely peace agreement is not to be expected. Oslo II's provisions, outlined in Chapter 5, will thus continue to play an important role in the foreseeable future. This particularly refers to the administrative areas A, B and C in the West Bank and the related institutional differences between the Palestinian Authority and Israeli Administration.

Palestinian interviewees primarily stressed the need for a peace treaty or some other agreement over the most pressing issues. They particularly lamented the existence of Israeli settlements in the West Bank as a major obstacle to cooperation over resource management and beyond (PA7, 2016; PA9, 2016; PA10, 2016). The need for clearly defined rights, both related to the control over water resources and to the matter of Palestinian rights in general, was also mentioned (PA1, 2016).

The recent attempt to revive the Israeli-Palestinian JWC in January 2017 needs to be considered as well. Yoav Mordechai, head of COGAT, commented that this latest development shows the possibility to reach 'understandings and agreements when dealing with practical, bilateral issues, free of external influences, dealing with natural resources and other infrastructure issues that affect the entire population' (Times of Israel, 2017).

All Track II proposals introduced above show strong agreement with the principles outlined in the UN Watercourses Convention. However, the Israeli government has not signed the convention, while all other riparians to the Jordan River have<sup>34</sup> (International Water Law Project, 2015).

One interesting development is that amendment to Israeli Water Law in 2004 includes 'protection of restoration of nature and landscape values, including springs, rivers and wetlands' as water purposes along with other use such as domestic needs, agriculture and industry (Ministry of Environmental Protection,

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<sup>34</sup> Palestine acceded to the convention in January 2015, following Syria (1997), Jordan (1999) and Lebanon (1999).

2012). This addition turns nature into one of the legitimate users of water (Tal, 2017), which brings the potential to promote further restoration of nature within the Jordan River Basin.

*Customary institutions:*

A recurring issue, especially between Israelis and Palestinians, is the lack of trust. For Palestinian interviewees, mistrust particularly originates from the lack of Palestinian rights and the notion that Israelis did not regard them as an equal partner (PA9, 2016; PA10, 2016). The continuation of the Israeli occupation and related restrictions on movement and self-governing within the West Bank as well as the ongoing expansion of Israeli settlements further contribute to the deteriorated relation between the two riparians (PA7, 2016; PA9, 2016). Israeli interviewees in return commented on the political instability within the Palestinian society as a reason for their mistrust which made it hard to rely on Palestinian partners and thus build trust based on actions (IS2, 2016; IS12, 2016). This customary institution is a major stumbling block for cooperation, and it is important to take a note of this influence for ZOPEC.

At the same time, however, there are customary connections binding the different riparians together. Israel and Jordan both have a strategic interest in keeping up their good relations – Jordan acts as a ‘buffer zone’ towards the Arab world for Israel (Abu Amer, 2016), while the good relations with Israel help Jordan to access financial support from the US (Nashashibi, 2014). Palestine and Jordan on the other hand are connected by a shared heritage, as the West Bank used to be part of Jordan in the decades prior to the Six-Day War and Jordan offered refuge to many Palestinians forced to leave their lands (Nanes, 2008). Combined, these connections might support trilateral diplomatic ties with Jordan as the connecting piece between the deadlocked relations between Israel and Palestine.

Within the dialogues for developing the GI Addendum to the Water Annex (2015), delegations and experts were encouraged to explore more ways to create more value and generate a broader vision on sharing benefits. A similar mutual gains approach was applied within the NGO Master Plan, which manifested itself in multi-functional usage approach (Huntjens, 2017). Both cases illustrate an ongoing paradigm shift from a zero-sum approach to one of mutual gains (Huntjens, 2017). This paradigm shift is expected to play an increasingly important role for future effective cooperation, especially when applied to the water-food-energy nexus in the Jordan Basin.

This paradigm shift is currently primarily driven by Track II initiatives. While the FoEME proposal was already aiming for a multiple-usage approach to water management around 2010, many government officials still insisted on including quantitative allocations when tackling the question of shared water resources in the basin (Shuval, 2011; PA7, 2016).

### *Actors and agency:*

All relevant actors have been sufficiently introduced within the individual chapters on action situations, so we suffice to provide a brief overview of key actors and how they are relevant for future effective cooperation, and which interactions are important.

National authorities - such as the IWA, PWA, Jordanian Ministry of Water and the Jordan Valley Authority - are anticipated to play a primary role in further developing the ZOPEC into concrete actions. Building relationships between governments is not enough for trust-building. The role for non-state actors - such as water users, NGOs, and networks of scientists and universities - is important for effective cooperation because it can add an important dimension to trust-building efforts (Susskind & Islam, 2012). Municipalities also have an important role in that they represent the population in the basin and provide water, wastewater collection and solid waste management services. There are also many examples of transboundary water cooperation at municipal and local levels, such as collaboration over Kidron Valley, and the Good Water Neighbour project supported by EcoPeace. The subsidiary principle is relevant here, which suggests that water management and service delivery should take place at the lowest appropriate governance level (Jordan, 2000; Stoa, 2014). Within the context of transboundary water cooperation, the subsidiarity principle is only applicable if properly embedded in a multi-level governance approach, since the activities of local authorities or non-governmental stakeholders need to be aligned with those of national authorities with a mandate for cooperation across borders, and vice versa.

CSOs are expected to play a key role. Key existing proposals for solving water problems in the region examined in this chapter are all related to initiatives facilitated by civil society actors. They are also important actors with regard to organising grassroots environmental protection activities and to engaging and organising local stakeholders. As to multilevel governance, stakeholder participation can not only have a significant influence in shaping projects, but also feed information to policymakers for future policies. Feedback during consultation meetings may shape not only local interventions, but also broader management. Nevertheless, achieving such feedback across institutional levels seems to require an agent or institution acceptable to all groups who can ensure that such dialogue does take place (see also Stringer et al., 2006). In the NGO Master Plan, this role was assumed by EcoPeace; in the GI Water Annex case, by the GI. Without these players, it is unlikely that these projects would have had the successes they did (Huntjens, 2017). As mentioned above, civil society actors also play an important role as drivers of the ongoing paradigm shift towards a mutual gains approach to water management.

Business sector involvement is thus far limited to the financing and/or implementation of public utilities in the Jordan Basin, but the potential role for a constructive involvement of the business sector is much larger, in particular for businesses related to tourism, information technology, waste and wastewater

management, agriculture and food processing. Their involvement in dialogues and negotiations will provide a different perspective to the identification of priority problems and possible solutions and would provide a broader basis for a sustainable funding of possible solutions (Huntjens & de Man, 2017). Experiences show, however, that the business sector is reluctant to enter in these processes for various reasons. A recommendation would be to clarify and develop incentives for entering into these processes. For example, the NGO based Master Plan has a focus on the creation of business opportunities and the inclusion of private sector actors from all riparian countries as a tool of transboundary cooperation that leans on technical solutions and shared economic benefits rather than political approaches in many instances.

More in general, stakeholder networks are important to effective cooperation in the Jordan and can provide critical on-the-ground feedback, especially as governments experiment with new technologies or ways of managing water supply and pricing. In addition, strong stakeholder interest in promoting alternate outcomes can push governments to keep searching for joint gain solutions (Susskind & Islam, 2012). In the Israeli-Palestinian conflict, CSOs convened experts and advocates from both sides, which proved decidedly helpful to mediators (Huntjens, 2017). This includes the GI and different activities by EcoPeace that were analysed earlier in this report as well as other initiatives ranging from local scale (e.g. EcoPeace's Good Water Neighbours Programme) up to regional scale (e.g. scientific and educational initiatives as they are undertaken by the MEDRC or the AIES).

Stakeholder participation allows for the fine-tuning of institutional arrangement and physical interventions to the local context. In practice, local stakeholders (such as irrigation farmers and well owners) already manage most of the water resources. In this sense, participation can be seen as much as participation by government agencies in local governance arrangements as the reverse (Huntjens, 2017). Public and stakeholder participation is an essential link across local, national and regional planning levels. Different interest groups should therefore be able to participate in the planning process at multiple levels.

## **10.2 Chapter conclusion and potential future cooperation**

This chapter highlighted a variety of factors which are most likely to affect future cooperation over shared water resources in the lower part of the Jordan River Basin. A summary of these key factors will be provided in the next concluding chapter.

We conclude this chapter by providing an overview of ZOPEC, based on our analysis of several past and current action situations and key proposals. The ZOPEC illustrates potential areas that could promote effective cooperation and bring benefits to all parties involved in managing the water. In our approach we consider the ZOPEC as a combination of viable future action situations (Huntjens

et al., 2016). The viable future action situations have been identified based on commonality in at least two or more action situations or key proposals on regional cooperation over water management in the Jordan River basin, as described in this report.

#### A: Regional collaboration and economic development

Work is required towards a mechanism for regional collaboration and recognition, and regional economic development, as proposed by the Arab Peace Initiative, the Geneva Accords and the Regional NGO Master Plan. Next to institutional structures fostering economic cooperation, this also includes, for instance, the free movement of labour between the different riparians.

#### B: Jordan Basin Treaty, with the JRBO as the implementing agency

Agreements based on international water law are possible, when focusing on mutual gains and benefit-sharing, and as long as the concerns of all riparians are sufficiently included. Such an approach was for instance proposed in the Geneva Accords and by the Regional NGO Master Plan. Considerations for including all the basin riparians (including the upper part of the Jordan River Basin) is critical for the successful management of the river basin.

#### C: Pollution control and wastewater treatment and recycling

Water pollution control and quality assurance based on a commonly agreed framework of standards, monitoring and reporting, such as the EU Water Framework Directive, have been successful in other regions. De Man (2016) shows that joint governance of the transboundary wastewater by the Israelis and Palestinians is limited through a range of uncertainties<sup>35</sup>. Due to these uncertainties, a quantification of flow and impact of wastewater is difficult to establish and thus hinders cooperation. Effective cooperation should be based on the recognition of the uncertainties, but should follow the political realities, which means that fact-finding initiatives are slowed down in times of political turmoil. Notwithstanding, steps towards cooperation should include the identification of: problem and solution framings; uncertainty characteristics; and information needs. Precautionary actions are highly necessary to prevent irreversible damage to the hydro-ecological systems.

#### D: River rehabilitation

A particular focus of the Regional NGO Master Plan and EcoPeace's work in general lies on the re-establishment of the environmental flow in the Jordan River with regards to both water quantity and water quality. Israel is taking up a crucial role in releasing more water into the Jordan River instead of pumping it into their

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<sup>35</sup> Sources of uncertainty include: intrinsically variability of flows; limited measurements; assumptions made in modelling; and estimates of water usage based on contested population size figures. In addition, high-politics constrains the effective operation of wastewater treatment plants, through disputes about settlements and operation in Area C, tariffs and water quality standards.

National Water Carrier from the Sea of Galilee. While they have agreed to release more water into the river, it only amounts to 10 MCM per year so far whereas the NGO Master Plan requires them to release 220 MCM per year. It is also suggested to couple environmental objectives with economic incentives.

#### E: Joint research and cooperation on monitoring water quality, flow and quantity

A joint research agenda for the integration of issues by all riparians can stimulate cooperation within the educational field and academic communities. This will also support mutual trust and mitigate the risk that (independent) scientific input to cooperation will become a casualty of political disagreement. Such joint research approaches have been proposed by the Addendum to the GI Water Annex and are in line with Article 40-I of the JWC.

#### F: Economic principles for sustainable and efficient use and management of shared water resources

Project implementation and (waste) water service delivery based on a rational economic basis (including environmental costs) with adequate pricing and the creation of incentives for cost recovery and the polluter pays principle can strengthen the water sectors in each country. This has already been proposed by the Addendum to the GI Water Annex and the regional NGO Master Plan. With regards to the economic impacts of the river rehabilitation, a study commissioned by EcoPeace showed 'substantial' benefits from a rehabilitated Jordan River to the region (EcoPeace, 2012, p. 13).

#### G: Additional drinking and irrigation water by means of desalination

Water desalination has become economically viable. Its costs have become close now to the price of conventional water in Israel. Donors can help Jordan and Palestinians (see the example of desalination in Gaza) to develop desalination infrastructure as well, with Israel sharing their technologies. A similar approach is already taken within the scope of the Red Sea – Dead Sea Conveyance Project, and has been proposed by the Addendum to the GI Water Annex. Joint research facilities such as MEDRC can provide opportunities for research cooperation over desalination and contribute to both further technological advancement and establish scientific partnerships.

#### H: Benefit-sharing arrangements on the water-food-energy nexus

Such arrangements are illustrated in the recent agreements over the Red Sea-Dead Sea Conveyance project, water swaps between Israel and Jordan, and the energy trade between the two countries. When parties see the benefits of cooperation, there is a potential for further enhancing cooperation between the riparians in the future. This potential has already been the target of different projects in recent years, suggesting different pathways for future cooperation (e.g. EcoPeace, 2017b; Meisen & Tatum, 2011).

The ZOPEC can be used as an advocacy tool with national stakeholders, international financiers and other international actors to increase the political will to work towards effective cooperation, in particular related to the viable future action situations identified within in the ZOPEC, whether in full or in part (see above overview). The ZOPEC should be useful as a guidance for exploring new, and refining existing, approaches and strategies for cooperation over shared waters, and it is intended to be used not only by planning agencies and governments, but also by community-based and private sector organisations that are interested in working proactively with other stakeholders on water cooperation at multiple levels.



## 11. Conclusion

This report analysed factors affecting transboundary water cooperation in the lower part of the Jordan River Basin. The main research questions we aimed to answer included:

- What are the key factors affecting water cooperation in the transboundary context of the lower part of the Jordan River Basin?
- What could be the Zone of Possible Effective Cooperation among basin stakeholders?

### 11.1 Key factors affecting water cooperation

The basin context is one of the key factors identified as affecting current cooperation. One of the most significant factors affecting transboundary water cooperation in the lower part of the Jordan River is the political context. Political stability is a particularly important prerequisite for further enhancing cooperation, as expressed by many interviewees and all proposals for future water cooperation. This political context is shaped through interaction of institutions and agency. Customary institutions, particularly the historical and cultural contexts of Arab and Jewish populations, play an important role in the creation of political tension, thereby also affecting water conflicts. Historical attempts to discuss cooperation through water allocation date back to the 1950s when the Johnston Mission took place, which is closely linked with inter-state conflict within the region and political instability.

The biophysical condition is another key factor that affects cooperation. Key factors relevant to the situation include the limited availability of freshwater in the region and the increase in population dependent on this limited water supply. These situations create the source of contention over sharing water in the region. Another key contextual factor is the influx of refugees and the increasing water stress in Jordan associated with this influx. This situation in the region is particularly pressuring Jordan to urgently solve the water scarcity. The emerging availability of new water through desalination technology, as well as improved ways of treating and reusing waste water for multiple use, creates the potential for new cooperation. An example of such cooperation is observed in the case of the Red Sea-Dead Sea Conveyance project.

Inter-dependency is another factor observed to facilitate cooperation, in the case of cooperation between Jordan and Israel, as well as the regional cooperation of the Red Sea-Dead Sea Conveyance project. In order to find solutions to the water scarcity in parts of each country where water is needed, the idea of water swaps is being implemented. For Israel, Jordan is one of the few Arab countries that Israel has a peace agreement with. Surrounded by all the Arab nations, which have a somewhat political contention with Israel, it is paramount that Israel maintains its relationship with Jordan. Peace and stability of Israel and Palestine would also

benefit Jordan, as conflict between the two can potentially cause additional refugees to move to Jordan, which would add stress to its already pressed resource use.

Formal institutions created key platforms for cooperation, particularly with respect to the Israel-Jordan cooperation as well as the cooperation between Israel and Palestine. The Peace Treaty of 1994 and Oslo II agreement between Israel and Palestine both created JWCs that are the key working mechanism for water cooperation between the respective countries. The nature of these formal institutions also influences the nature of cooperation. While the Jordan-Israel cooperation is based on a long-term peace agreement, the Palestine-Israel cooperation is based on an interim agreement that was meant to be revisited prior to a final agreement. Cooperation is also based on the current occupation status of Palestine, which provides fundamental questions to stakeholders vis-à-vis the status quo relationship between Israel and the associated consequences in cooperation.

Customary institutions also play an important role in shaping the cooperation. This research reaffirms that trust is an important factor that affects cooperation. In the case of the Palestine-Israel cooperation through the JWC, the implementation of a formal institution is somewhat hindered by customary institutions that includes 'blackmailing' related to the approval of Palestinian water projects. Sentiments of riparians against each other is another factor that is creating tension in this cooperation.

Furthermore, actors and their agencies are central to cooperation. The analysis observed that agencies interact with formal and customary institutions, reinforcing each other and affecting the status of cooperation. An example of this is observed in the Palestine-Israel cooperation where the formal institution that defines water management under the status quo of the occupation creates a power asymmetry between the two actors, affecting the status of water management. Customary institutions including the historical relationship between the two actors, sentiments between both populations, values towards normalisation as well as the practice of 'blackmailing' all interact and influence the current status of cooperation. These interactions provide a basis for the structure-agency approach adopted in the Multi-Track Water Diplomacy Framework, used as the analytical framework for this research.

## **11.2 Zone of Possible Effective Cooperation**

The analysis of all the action situations and ZOPEC suggest the importance of the role of civil-society-led water diplomacy in the lower part of the Jordan River. Many of the proposals on how to move forward with water allocation and rehabilitation of the Jordan River are developed and put on the table through processes led by civil society actors. Where political tension among state actors are high, there are certain roles civil society actors can play as they do not represent the state and

may have more freedom in proposing alternatives outside of the constraints that are often faced by government actors.

A ZOPEC for the lower part of the Jordan River basin builds onto existing proposals of water cooperation in the region, as well as emerging factors that can potentially affect future cooperation. Existing proposals have common denominators that can provide a basis for future cooperation. These denominators include 1) the key guiding principle of water cooperation to be based on international water law such as the UN Watercourses Convention; 2) joint water management to take a IWRM approach, some favouring quantitative water allocation and others favouring a multiple-use approach; 3) the need for an RBO for the Jordan River basin; and 4) the need to institutionalise stakeholder participation in water management. In addition, all proposals consider some level of stability and agreements in current political conflict among riparian countries.

A ZOPEC for the region also considers factors affecting the current and potential cooperation in the basin. As a contextual factor, the increased availability of water based on improved desalination technology and associated cost reduction for desalinated water creates new opportunities for collaboration. The influx of refugees in Jordan also creates incentives and the need for exploring possible solutions outside of the mere sharing of existing water, such as water swaps with neighbouring countries. Formal institutions between Jordan and Israel seem to be working positively, whereas the ones between Israel and Palestine face difficulties at best and are on some occasions counter-productive rather than facilitating cooperation. However, the recent attempt to revive the Israeli-Palestinian JWC provides the possibility for improving current and future of cooperation through formal institutions.

This analysis also identified the role of customary institutions. Lack of trust among parties, particularly between Israelis and Palestinians, is one factor which can hinder cooperation. However, there are positive signs, particularly through the exploration of a multiple use and mutual gains approach in exploring solutions to the water problem, bringing a paradigm shift in the way cooperation can take place. Exploring potential areas of cooperation can also help create a shift in agency among actors, as solutions such as multi-use approaches only work when positive cooperation exists among actors.

With this background, ZOPEC for the lower part of the Jordan River is identified as basin-wide cooperation between all riparian actors as equal partners on the basis of mutual gains. Specifically, this includes the following key components: regional collaboration in conjunction with regional economic development. As concrete outputs, some type of institutional mechanism would be in place such as a Jordan River treaty or a JRBO, and a joint research and cooperation mechanism for monitoring water quality, quantity and water flows would be implemented. As possible outcomes and impacts resulting from such cooperation, basin actors would be sharing the benefits from arrangements on the water-food-energy nexus. While this research focused on an analysis of the lower part of the Jordan River Basin, such future cooperation would ideally be implemented in collaboration with

all the riparian actors. Improved management of water usage from the river, improvement in pollution control and the increased availability of water through desalination and water recycling technology, can all contribute to the rehabilitation of the Jordan River.

The analysis of current and potential future cooperation over the lower part of the Jordan River confirmed that all key factors, including basin-wide context, formal and customary institutions, and actors and agency, contribute to and influence transboundary water cooperation, validating the potential use of the Multi-Track Water Diplomacy Framework in the analysis of transboundary water cooperation.



## Annex I: Indicative questions used during the interviews

A: Overview of key dimensions for the context

<b>Dimension</b>	<b>Variable</b>	<b>Indicators</b>	<b>Guiding questions/Sources of information</b>
<b>Political context</b>	Key political characteristics	I.e. general relation among riparian countries, political system	What are the political systems adopted by riparian countries? What are the political relationships among countries?
<b>Socio-economy</b>	Key socio-economic characteristics	I.e. types of livelihoods, industrial activities, social networks	What kind of livelihoods are riparian populations dependent on? What types of industrial and agricultural activities exist?
<b>Biophysics</b>	Key biophysical characteristics	I.e. water parameters, river morphology, flora/ fauna species, climate characteristics, etc.	Which are the key biophysical characteristics of the river system?
<b>Alterations</b>	Physical changes in the river systems	I.e. hydropower development, irrigation development	What is the level of physical alteration to the river? Are there any (hydropower) dams, irrigation schemes, or other water diversion activities being developed?
<b>Interdependency</b>	Interdependencies among riparians	Interdependencies among riparian states; among riparian residents	Has water cooperation increased interdependencies among riparian states? Or riparian residents? How could/did cooperation improve the benefits from interdependency?
<b>Status of conflict and cooperation (basin-wide, and not only related to water)</b>	Conflict and cooperation	Existence of conflict and cooperation: Overview of action situations related to	What are the previous and on-going conflicts and cooperation that exist in the basin?

		transboundary water cooperation	
	People's perspective about cooperation	Interviewee's perception about cooperation	What is your observation about the current cooperation? Do you think it is working? Effective? Done in a mutually satisfied way?

*B: Dimensions, variables, and guiding questions for the analysis of formal institutions*

<b>Dimension</b>	<b>Variable</b>	<b>Indicators</b>	<b>Guiding question</b>
<b>Formal institutions</b>	Key legislations	Laws and policies that relate to management of the river basin	What are the laws and policies that relates to management of this river basin?
	Resource and uses covered	Water law adopts a basin and IWRM approach to water resource management	Does the law adopt a basin and IWRM approach to water resource management?
	Stakeholder engagement	Stakeholder involvement (in particular vulnerable groups) in (a) decisions on large scale projects and (b) the development of water laws and policies	Are stakeholders– in particular vulnerable groups – involved in (a) decisions on large-scale projects and (b) the development of water laws and policies?
	Avoidance of significant harm	Liability: law provides an obligation on the state to protect its citizens and riparian states from the adverse effects of natural hazards	Does the law provide an obligation on the state to protect its citizens and riparian states from the adverse effects of natural hazards?
	Data and information management	Exchange of data and information; law provides the public with a right of access to hydrological data; authorities share such data with riparian countries	Does the law provide the public with a right of access to hydrological data and do the authorities share such data with riparian countries?
	Joint institutions	Existence of joint institution assigned to govern shared water resources; allocation of resources and	Have the basin states set up a joint institution with the assignment to govern shared water resources? Are the resources and authority provided to this institution to

		authority to actually govern	actually govern the shared resources?
	Ecosystem approach	Environmental impact assessment (EIA) legislation in place	Is an environmental impact assessment (EIA) legislation in place?
	Managing risk, including floods and droughts	Emergency measures in place which automatically kick in if human health or the environment is at risk	Are emergency measures in place which automatically kick in if human health or the environment is at risk?
	Dispute avoidance & settlement	Dispute settlement, provisions in place regulating the various steps of dispute settlement during a conflict of use	Are provisions in place regulating the various steps of dispute settlement during a conflict of use?
	Equitable and reasonable use	Rules of allocation correspond with the principle of equitable and reasonable use	Do the rules of allocation correspond with the principle of equitable and reasonable use?

*C: Dimensions, variables, indicators and questions for the analysis of customary institutions*

<b>Dimension</b>	<b>Variable</b>	<b>Indicators</b>	<b>Guiding questions</b>
<b>Trust</b>	Trust	Existence of trust	What is the level of trust between riparians?
<b>Customary rules</b>	Customary rules	Existence of customary rules	Are there any customary rules that have been applied in managing the river? (Try to ask some indirect questions as well.)
		Impact of informal rules on river basin management/cooperation and its effectiveness	What role/functions did the customary rules play in managing the river? How did it affect effectiveness of cooperation?
		Relationship between formal and informal rules; complementary or contradictory	What is the relationship between formal and informal rules? Did they complement each other? Or did they contradict each other?
<b>Historical legacy</b>	History of conflict and cooperation over water	I.e. references to historical events on conflict and cooperation in current water cooperation	Is there any history of conflict and cooperation on water among stakeholders? How was conflict resolved? At which levels?
	History of disputes	Wars, conflicts in the past history between states/tribes	What is the history of disputes/on-going conflicts with other

	other than water		riparian countries, not necessarily related to water?
	Culture/ religion	Impact of culture or religion on conflict/ cooperation	What cultural/religious factor(s) affect(ed) the dispute/ cooperation?
<b>Attitudes towards water</b>	Sentiments of regarding water	Sentiments of people regarding water	What are the general public's sentiments over the river/ water?
	Sentiments regarding other	Sentiments of people regarding other riparian countries/residents	What are the general public's sentiments towards other riparian countries/ residents?
	Type of value	Perceptions and values towards water management by key stakeholders within the basin	What are the perceptions and values towards water management by key stakeholders within the basin?

*D: Dimensions, variables, indicators and questions for the analysis of actor-agency*

<b>Dimension</b>	<b>Variables</b>	<b>Indicators</b>	<b>Guiding questions/Sources of information</b>
<b>Actors</b>	Key actors/ stakeholders	Existence of actors/stakeholders	Who are the key stakeholders within the basin? - Government bodies - Water users - NGOs/civil society - Private sector - Regional bodies
		Type of actors that occupy key influential positions and why	Who are the actors that occupy key influential positions and why?
		Existence of coordinating organisations	Is there any formal/informal mechanism that coordinates different actors? For example, inter-ministry coordination? Or RBOs?
		Arrival of new actors, like multi-national companies (MNCs), civil society groups and other non-state actors	Are there new actors that played a role in conflict prevention and resolution?
		Informal organisations	Are there any informal organisations or actors who have

		been playing a catalytic role in managing the river? If so, how was it established?
Actor's influence	Interests and incentives	What are the stakeholders' interests, incentives and beliefs?
	Control over critical resources	Who controls critical resources?
	Existence of coalitions	With whom do stakeholders form coalitions?
	Use of strategies and venues	What strategies and venues do stakeholders use to achieve their objectives?
	Influence of bureaucracy on the outcomes	What is the role of bureaucracy?
	Influence of new actors	What is the impact of civil society, MNC's and other non-state actors, on formal negotiations and vice versa? What is the influence of new actors (and their constituencies) on conflict prevention and conflict resolution (i.e. negotiated agreement and its implementation)? To what extent do these actors address the root causes of conflict?
	Influence of MNCs	What is the role of MNC's in water conflict and cooperation? Can they provide a sustainable financial underpinning to conflict resolution?
	Influence of civil society	Is there any transboundary civil society that works on water cooperation? What kind of role did transnational civil society play in water cooperation and regional peace building?
	Influence of coordinating organisations	How does the coordination work? Is any actor more influential than the others?
	Influence of RBOs	What are the roles and mandates of RBOs? Does the RBO contribute to the behavioural changes of its members? To what extent does the RBO achieve the goals set by its founding documents/strategic plans? Did the RBO play a role in solving the collective action problems that prompted its establishment?

			<p>How does the RBO contribute to:  1) peaceful resolution of water-related collective action problems and promote cooperation among the member states? 2) improvement of the state of the environment in the basin? 3) efficient use of the river's resources and economic development? 4) improvement of the riparian population's livelihoods and their river-related well-being?</p> <p>To what extent does the RBO effectively govern the river's water resources? To what extent does the RBO contribute to the improvements of issues other than water resources governance in the basin?</p>
		Influence of informal organisations	<p>What roles/functions did informal organisations/actors play in managing the river? Or enhancing cooperation/gaining mutual understandings?</p> <p>What is the relationship between formal and informal organisations/actors?</p>
			<p>What kinds of contribution did the informal organisation make in improving the cooperation? (In case informal organisations were found to be important, then, ask similar questions to RBO related questions above)</p>
	Type of leadership	Type and role of leadership	<p>Were there any actors who played important leadership roles? Who was it? What was the role the leader played in cooperation?</p>

*E: Dimensions, variables, indicators and questions for the analysis of action situations*

<b>Dimension</b>	<b>Variable</b>	<b>Indicators</b>	<b>Guiding questions/Sources of information</b>
<b>Initiation</b>	Initiation of action situation	Awareness and sense of urgency; purpose; convener; mobilisation of support	<p>What triggered the dialogue or negotiation?</p> <p>What was the stated purpose? Who convened?</p>

			How was support mobilised?
<b>Format</b>	Stakeholder participation	Type of stakeholder participation and their access to decision-making regarding the river	Who was invited to participate, and who attended? Who spoke or wrote? What venue?
		Involvement and impact of non-state-actors on formal negotiations and vice versa	What is the impact of civil society, MNC's and other non-state actors, on formal negotiations and vice versa?
	Informal processes	Existence of informal processes for cooperation	Were there any informal processes that facilitated cooperation over the river/water?
		Relationship between formal and informal processes	What is the relationship between formal and informal processes?
	Session format	Session format, agenda/structure, presentation formats, kind of facilitation	What was the format of sessions? What was the structure (agenda) of the event? What kind of organisational and presentation formats were used? How were exchanges between participants facilitated?
	Extent of collective action	Coordinated activity, involving experts, stakeholders, ordinary citizens and policy makers in a process of collective discovery	To what extent was there a coordinated activity, involving a variety of actors, in a process of collective discovery?
	Transparency about the decision-making process	Proper expectation management by providing stakeholders with a clearly defined and realistic scope of what to expect during the cooperation process	Is it clear for stakeholders what to expect during the cooperation process?
	Negotiation style	Negotiation strategies, e.g. yielding (accepting the first offer), compromising (split the difference), competing (zero-sum game), problem-solving (mutual gains)?	In case of negotiation: What type of negotiation strategy was being used and/or dominated the process?

<b>Content</b>			
	Issue selection	Issue/topic selection in the action situation, topic exclusion/avoidance	What issues and topics were addressed during the dialogue or negotiation? Which were excluded or avoided?
	Information availability	Information availability beforehand, relevance of information, sufficient reviewing time for input materials	What information was made available to participants beforehand? Was it relevant? Was there sufficient time to review the input materials?
	Dealing with uncertainties	Identification of uncertainties	What uncertainties were being acknowledged and addressed in the action situation?
		Uncertainties are not glossed over but communicated (in final reports, orally)	Are uncertainties communicated? If yes, how and by whom?
		Transparent and early communication of different types of uncertainties during cooperation process	How could/did cooperation overcome the uncertainties?
	Joint/participative information production	Different government bodies are involved in information production and supply, or at least consulted (interviews, surveys etc.)	How are different government bodies involved in information production and supply?
		Idem for non-governmental stakeholders	
	Interdisciplinarity	Different disciplines are involved in information production and supply: in addition to technical and engineering sciences and also for instance ecology and the social sciences	Are there different disciplines that are involved in information production and supply?
	Elicitation of mental models/critical self-reflection about assumptions	Participants allow their knowledge and information to be challenged by other participants and present their own assumptions in as far as they are aware of them	Are participants open to be challenged by other participants?

		Information (e.g. research results and consultancy reports) is not presented in an authoritative way, but in a facilitative way, to stimulate reflection by the stakeholders about what is possible and what it is they want	Was information presented in an authoritative or facilitative way that stimulates reflection by the stakeholders?
	Broad communication	Governments exchange information and data with other governments	Do governments exchange information with others within the government?
		Governments actively disseminate information and data to the public: on the Internet, but also by producing leaflets, through the media, etc.	Do governments actively disseminate information and data to public? In what way?
	Utilisation of information	New information is used in the action situation (and is not distorted)/ New information influences policy	Was any new information used in the action situation/did it influence the negotiation or dialogue?
	Decision support system(s)	River basin information systems are present and up to standards	Is there any river basin information system in place? Are they up to date and up to standards?

*F: Dimensions, variables, indicators and questions for the analysis of output*

<b>Dimension</b>	<b>Variable</b>	<b>Indicators</b>	<b>Guiding questions/Sources of information</b>
<b>Output</b>	Produce	Result of negotiations or dialogues, e.g. agreements, decisions, project approval	What follow-up was there by conveners and participants?
	Change in level of trust	Issue relevant outputs from informal processes Change in level of trust	What are the key outcomes from informal processes? Did water cooperation create any trusts among riparian states? Or riparian residents?
	Deliberating alternatives	Different strategies for dealing with possible future scenarios	Have different strategies been developed for dealing with possible future scenarios? If

			yes, how, where and by whom?
	Reframing problems	Shifting viewpoints/angles to describe problems in order to unlock potential for finding new solutions	Whether reframing of problems occur, and if yes how? Did participants learn useful things from each other?
	Monitoring and evaluation	Development of M&E in water cooperation	Does M&E of cooperation process occur? If yes, how, where and by whom?

*G: Dimensions, variables, indicators and questions for the analysis of outcomes and impacts*

<b>Dimension</b>	<b>Variable</b>	<b>Indicators</b>	<b>Guiding questions/Sources of information</b>
<b>Solutions</b>	New solutions	Development and implementation of new solutions	Which innovative solutions are being implemented? How were these new solutions received?
	Customary solutions	Solutions that are created without formal agreement	Are there any solutions that are being created and implemented by local stakeholders outside the context of formal policies?
<b>Ecologically optimal outcome</b>	Environmental flow	Existence of environmental flow assessment	Was environmental flow assessment been conducted?
		Scientific quality of environmental flow assessment; analysis of relationships between flow alteration and ecological characteristics for different river types	Did the environmental flow analyse relationships between flow alteration and ecological characteristics for different river types?
		Recommended level of environmental flow	What is recommended as environmental flow?
		Current situation of environmental flow, how much is actually flowing	What is the reality (current situation) of managing environmental flow?
		Process of determining environmental flow; who was	Who was involved in assessment of environmental flow? What was the level of

		involved; level of stakeholder participation; evidence-based decision-making	stakeholder participation? What was the process of science-policy interface?
	Ecosystem	Existence of ecosystem assessment, e.g. by government of NGO	Does any type of ecosystem of biodiversity assessment exist?
		Quality of ecosystem assessment; key criteria; scientific methodology	What are the key criteria/scientific methodology used for assessment?
		Recommendations from the ecosystem assessment, e.g. on conservation	What is the recommendation from assessment reports?
<b>Economically optimal outcome</b>	Economy	Water management practice which takes ecosystems into account Mentioning of rivers' resources in socio-economic development plan	Are there any management practices that take into account ecosystems?  In the socio-economic development plan, is there any mention of use of rivers' resources?
		Economically optimal outcome from using the river	What is the economically optimal outcome from using the river?
	Use of natural resources for economic activities (non-water)	Ecosystem services provisions, including: provisioning services, regulating services, habitat or supporting services, cultural services	What are the main ecosystem services the river provides? The following are examples of different service: <ul style="list-style-type: none"> <li>• Provisioning services: Water supply, use of water for energy production, sediment and soil for cultivation and geomorphological formation.</li> <li>• Regulating services: Regulating flood and erosion.</li> <li>• Habitat or supporting services: Providing</li> </ul>

			<p>habitat for fish, other aquatic organisms, water birds, riparian vegetation etc.</p> <ul style="list-style-type: none"> <li>• Cultural services: River for recreational use, aesthetic use, and cultural use.</li> </ul>
	Use of water for economic activities	<p>Extent of river water used for irrigation; optimal level in terms of outputs</p> <p>Extent of hydropower development; planned in optimal levels in terms of hydropower outputs</p>	<p>Is irrigation use from the river water being at optimal level?</p> <p>What is the extent of hydropower development (ongoing and planned)? Are they planned in optimal levels in terms of hydropower outputs?</p>
		Extent of river water used for domestic use; distributed at optimal level; system of allocation	What is the extent of river's water use for domestic use? Is it used/distributed at optimal level? What is the system for allocation?
		Extent of river water used for industrial use; optimal distribution; system of allocation	What is the extent of river's water use for industrial use? Is it used/distributed at optimal level? What is the system for allocation?
<b>Non-intended impacts</b>	Non-intended impacts	Unforeseen negative or positive consequences of an intervention	Which unexpected consequences can be identified following the implementation of the intervention at hand?
<b>Creation of behavioural norms/expected behaviours</b>	Behavioural norms	Existence of behavioural norms; creation of any behavioural norms	Did water cooperation create any behavioural norms/expected behaviours among riparian states? Or riparian residents?
<b>Interdependency</b>	Interdependency	Increased interdependencies among riparian	Has water cooperation increased interdependencies among

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	states; among riparian residents	riparian states? Or riparian residents?
	Maximisation of the benefits from interdependency due to cooperation	How could/did cooperation maximise the benefits from interdependency?

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## Annex II: Interviews in each country

In Israel, 13 face to face interviews were conducted in Tel Aviv and in Jerusalem. A combination of stakeholder mapping and snowball sampling allowed the research team to meet with interviewees from a variety of sectors including: government, civil society, semi-local government entity, water service provider, professional union and academics. Table 11 below provides an overview of the interviewees.

Table 11: List of interviewees in Israel.

Interviewee number	Sector	Interview location
IS1	Civil society, Academic	Jerusalem
IS2	Academia	Jerusalem
IS3	Semi-local government entity	Jerusalem
IS4	Government	Jerusalem
IS5	Civil society	Tel Aviv
IS6	Private sector, former water service provider	Tel Aviv
IS7	Government	Tel Aviv
IS8	Government	Tel Aviv
IS9	Private sector, former government official	Tel Aviv
IS10	Private sector, Academic	Tel Aviv
IS11	Civil society	Tel Aviv
IS12	Government	Jerusalem
IS13	Government	Jerusalem

In Palestine, 13 face to face interviews were conducted in Jerusalem, Ramallah and Bethlehem. A combination of stakeholder mapping and snowball sampling method was adapted to identify interviewees. Interviewees included current and previous government officials, academia, research institute, donor, private sector and civil society actors.

Table 12: List of interviewees in Palestine.

Interviewee number	Sector	Location
PA1	Academic	Jerusalem
PA2	Civil society	Bethlehem
PA3	Civil society	Bethlehem
PA4	Government	Ramallah
PA5	Research institute	Ramallah
PA6	Government	Ramallah
PA7	Government	Ramallah

PA8	Private sector	Ramallah
PA9	Government	Ramallah
PA10	Academic	Ramallah
PA11	Civil society	Ramallah
PA12	Donor	Ramallah
PA13	Academic/Research institute	Jerusalem

In Jordan, six interviews were conducted in Jordan. In order to ensure broader representation, there were two additional interviews held in The Hague, one face-to-face and one by phone with an interviewee in Jordan.

*Table 13: List of interviewees in Jordan.*

Interviewee number	Sector	Location
JO1	Civil society	Amman
JO2	Government	Amman
JO3	Civil society	Amman
JO4	Government	Amman
JO5	Academia	Amman
JO6	Research institute	Amman
JO7	Foreign civil society	The Hague
JO8	Foreign civil society	The Hague / Amman

Additionally, one regional expert was interviewed face to face in the Netherlands. One of the research team members had an information conversation with another regional expert, which provided further input to the report.

*Table 14: List of regional interviewees.*

Interviewee number	Sector	Location
RB1	Research institute	Netherlands
RB2	NGO	Sweden

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