

Palestinian NGO Master Plan for Sustainable Development of the Lower Part of the Jordan River Basin

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Table of Contents

1	BACKGROUND	5
2	INTRODUCTION	5
2.1	THE LAYOUT OF THE MASTER PLAN	6
2.2	IDENTIFICATION OF THE STUDY AREA	7
2.3	IMPORTANCE OF THE JORDAN VALLEY.....	9
2.4	CURRENT SITUATION IN THE LOWER PART OF THE JORDAN RIVER	10
2.5	LEGAL, REGULATORY AND INSTITUTIONAL FRAMEWORK	15
2.5.1	<i>Existing Agreements</i>	15
2.5.2	<i>Palestinian Legal framework</i>	18
3	BASIS OF THE MASTER PLAN	20
3.1	MILLENNIUM DEVELOPMENT GOALS.....	20
3.2	PALESTINIAN NATIONAL SECTORAL DEVELOPMENT PLAN 2014-2016.....	21
3.3	RESEARCH AND AVAILABLE DATA.....	22
3.4	STAKEHOLDER CONSULTATIONS.....	23
3.5	OBJECTIVES OF THE MASTER PLAN	23
4	CHALLENGES AND ASSUMPTIONS	24
4.1	ASSUMPTIONS FOR 2015-2020.....	24
4.2	SPECIFIC CHALLENGES FOR 2020-2050	25
4.3	ASSUMPTIONS ON WHICH INTERVENTIONS ARE BASED	28
5	URBAN AND INFRASTRUCTURE (SOCIOECONOMIC) DEVELOPMENT	28
5.1	GOAL	29
5.2	OBJECTIVES	29
5.3	CHALLENGES	30
5.4	RATIONALE AND ASSUMPTIONS	30
5.4.1	<i>Health and well-being</i>	35
5.4.2	<i>Sustainable wildlife harvesting,</i>	35
5.4.3	<i>Protecting heritage and cultural resources</i>	35
5.4.4	<i>Equitable business and employment opportunities</i>	35
5.4.5	<i>Population sustainability</i>	35
5.4.6	<i>Adequate services and infrastructure</i>	35
5.4.7	<i>Adequate sustainable income and lifestyle</i>	35
5.5	INTERVENTIONS	36
5.5.1	<i>Summary of Urban and Economic Development Interventions</i>	41
6	WATER MANAGEMENT	45
6.1	OBJECTIVES.....	45
6.2	CHALLENGES	46
6.3	RATIONALE AND ASSUMPTIONS	47
6.4	WATER INTERVENTIONS	50

6.4.1	<i>Summary of Water Management Interventions</i>	52
6.5	COST ESTIMATES.....	54
7	POLLUTION CONTROL AND ENVIRONMENTAL MANAGEMENT	56
7.1	OBJECTIVES	56
7.2	CHALLENGES	56
7.3	RATIONALE AND ASSUMPTIONS	56
7.4	POLLUTION CONTROL AND ENVIRONMENTAL MANAGEMENT INTERVENTIONS	60
8	ECOLOGICAL RESTORATION	63
8.1	OBJECTIVES.....	63
8.2	CHALLENGES	63
8.3	RATIONALE AND ASSUMPTIONS	63
8.4	ECOLOGICAL RESTORATION INTERVENTIONS	64
9	TOURISM AND CULTURAL HERITAGE DEVELOPMENT	65
9.1	CURRENT SITUATION	66
9.1.1	<i>Tourism Trends</i>	66
9.1.2	<i>Tourism Services</i>	71
9.1.3	<i>Cultural Heritage Sites</i>	73
9.1.4	<i>Legal Status</i>	75
9.1.5	<i>Site rehabilitation selection</i>	76
9.2	OBJECTIVES.....	77
9.3	CHALLENGES	80
9.4	RATIONALE AND ASSUMPTIONS	81
9.5	TOURISM AND CULTURAL HERITAGE INTERVENTIONS	81
9.5.1	<i>Destination Concept Approach</i>	81
9.5.2	<i>Management</i>	82
9.5.3	<i>Product Development</i>	84
9.5.4	<i>Tourism Service Development</i>	86
9.5.5	<i>Promotion and Marketing</i>	88
9.6	INTERVENTION COST ESTIMATES.....	88
10	AGRICULTURE IMPROVEMENT	91
10.1	OBJECTIVES.....	91
10.2	RATIONALE AND ASSUMPTIONS.....	91
10.3	AGRICULTURAL WATER NEEDS BASED ON CROP WATER REQUIREMENT	94
10.4	AGRICULTURAL WATER NEEDS AND EMPLOYMENT.....	94
10.4.1	<i>Agricultural Water Needs and Income</i>	94
10.4.2	<i>Agricultural Water Needs and Food Security</i>	95
10.4.3	<i>Future Agricultural Water Needs</i>	96
10.5	AGRICULTURAL DEVELOPMENT INTERVENTIONS.....	97
10.5.1	<i>Develop the potential irrigable land</i>	97
10.5.2	<i>Future development of the Agriculture Sector</i>	97

11	INSTITUTIONAL FRAMEWORK	99
11.1	INSTITUTIONAL FRAMEWORK INTERVENTIONS SUMMARY	101
12	CONCLUSIONS	101
13	BIBLIOGRAPHY	103

Abbreviation list:

1. The Lower Part of the Jordan River Basin (LPJR) and (LJR)

1 Background

The economic development of the Palestinian Side of the Lower Part of the Jordan River Basin (LPJR) is one of the most important corner stones of Palestinian economic recovery and development. In addition to its vast potential for agricultural development, it has great potential for industrial development, and comparative advantages in the fields of tourism, transportation and logistics.

Moreover, the LPJR is the only large region of Palestine that can support large-scale of agricultural activities as well as absorption of population growth through large-scale



urban development, including new cities. The development strategy of the LPJR should focus on an integrated process tackling all economic sectors, in parallel, and in a complementary manner.

The following is a master plan that was developed for LPJR in order to present a wholistic and complimentary process that includes specific interventions aimed at

targeting the needs of all potential economic sectors and the population currently in existence and the potential growth in this population and the socio – economic development requirements in the immediate, short, medium and long term, projecting these requirements all the way into the year 2050.

2 Introduction

The Lower Part of the Jordan River originates at Lake Tiberius and meanders along 200 km down to the Dead Sea through the Jordan Valley. Its basin, although small in size, is well known around the world for its remarkable geographic features, natural uniqueness, its ancient civilizations and its religious relevance. The environmental and ecological quality of the basin have declined drastically during the last sixty years due to many practices including the dumping of the untreated wastewater from upstream and from side wadis: its water has been diverted by Israel while the remainder became contaminated; its ecological systems crimped and its natural absorption capacities have been pushed to the

limits. Large flows of untreated wastewater and saline water by Israel are discharged directly into the basin and substantial parts of the basin are no longer accessible for its inhabitants.

Water and Environment Development Organization (WEDO) under the umbrella of Friends of the Earth Middle East (FoEME) in partnership with the Stockholm International Water Institute (SIWI) and the Global Nature Fund (GNF) have assigned Royal Haskoning DHV to develop national NGO Master Plans for each riparian, Israel, Jordan and Palestine and an integrated trans-boundary plan for the Lower Part of the Jordan River basin (LPJR). This document provides the Palestinian Master Plan which aims to identify feasible interventions that will restore the environmental and ecological values within a defined financial and economic framework, as studied by Palestinian experts, and dependent on an equitable share of the basin's resources. The Master Plan will be used as an advocacy tool towards Palestinian decision makers and the international community for the implementation of the proposed interventions within the Palestinian part of the LJR, securing Palestine's rights as a riparian country. However, the challenges will be to embark on more efficient and rational water management practices with a stronger emphasis on environmental values and the need to urgently address the socioeconomic problems the Palestinians faces since decades due to the severe restrictions imposed by Israeli occupation since 1967.

2.1 The layout of the Master Plan

This document in section one, identifies the Palestinian study area, and provides overview on the Palestinian part of Lower part of Jordan River Basin, in terms of its population, their socio-economic circumstances, their agriculture, tourism and industry and their water needs. It also addresses the ecological, environmental, and institutional aspects. The master plan also includes in section two, guiding principles and objectives; and the legal framework and standards. In section three, the overall challenges for periods 2015-2020 and 2021-2050 are presented including major challenges that the Palestinian people and government would face in implementing short, medium and long term interventions, it also includes a list of assumptions on which the proposed interventions are based. While section four includes a number of proposed interventions. The proposed interventions address the challenges, goals and objectives of development in the study area. Each sector includes its respective interventions, including urban and socioeconomic development, water, health, environment, ecological restoration, tourism and agriculture. The proposed interventions, also provide an overview of the major stakeholders and their involvement within the study area. It is also true that all proposed interventions are harmonized and in accordance to policies, strategies of all related governmental institutions.

In section five, the master plan concludes that efficient implementation of the proposed interventions for development and addressing the current and future challenges within

the study area, will create a sustainable enabling business and investment environment. Finally section six includes the appendix and bibliography for references.

2.2 Identification Of The Study Area

Map 1: Governorates and communities of the study area:



As shown in Map 1, the Jordan Valley refers to the area of the West Bank of Palestine bound by the 1967 border to the north and south, by the Jordan River and the Dead Sea to the east, and by the eastern slopes of the West Bank mountain ridge to the west. It constitutes more than a quarter of the total area of the West Bank. Nearly 87% of the

Jordan Valley falls into Area C, which under the Oslo accords is under full Israeli security and administrative control. The Israeli planning authorities control all planning and construction in this area.

The Palestinian master plan will be based within the study area located in the northeastern part of the West Bank. The study area is bounded between 31°45' and 32°25' and has a total area of 878 km² (in the West Bank). The study area of this Master Plan does not cover all the hydrological boundaries of the LPJRB. The study area is distributed over five governorates, **Table 1** (Tubas, Jericho, Nablus, Ramallah and Al-Bireh, and Jerusalem) as summarized in the following table. However, two out of the five governorates (Tubas and Jericho) comprise more than 91% of the study area.



Table 1: Governorate areas intersecting the study area

Governorate	Area (km ²)	Percentage of area
Tubas	273	31%
Jericho	526	60%
Nablus	37	4%
Ramallah and Al-Bireh	32	4%
Jerusalem	10	1%

In 2013, there were approximately 60,000 Palestinians living in 25 communities and about 9,400 Israeli settlers living in a total of 39 illegal settlements¹ and working for Israeli businesses in the study area, only around 6-7% of the Jordan Valley is under

¹ B'Tselem - The Israeli Information Center for Human Rights in the Occupied Territories http://www.btselem.org/jordan_valley

Palestinian control (UNOCHA Jordan valley factsheet 2012), while 87% of the land is designated as Area C, virtually all of which is prohibited for Palestinian use, earmarked instead for the use of the Israeli military or under the jurisdiction of Israeli settlements. An additional 7% is formally part of Area B, but is unavailable for development, as it was designated as nature reserves under the 1998 Wye River Memorandum.

Around one quarter of Palestinians in the area reside in Area C, including some 7,900 Bedouins and herders. Some 3,400 people reside partially or fully in closed military zones and face high risks of forced eviction and displacement by the Israeli occupation army.

2.3 Importance of the Jordan Valley

The Jordan Valley is strategically important for the Palestinian people, given its historical political, cultural, economic, geographic value and its natural resources including water. The Jordan Valley is important not only for tourism, but also for its fertile land, natural resources and a warm climate appropriate for a wide range of agricultural production. The area covers the largest land reserve for development since it is rich in land and water resources, making it conducive for agriculture and animal husbandry. However, currently, agricultural and grazing land is not accessible to Palestinians, which results in 60% of Palestinians in the Jordan Valley living under the poverty or abject poverty line.

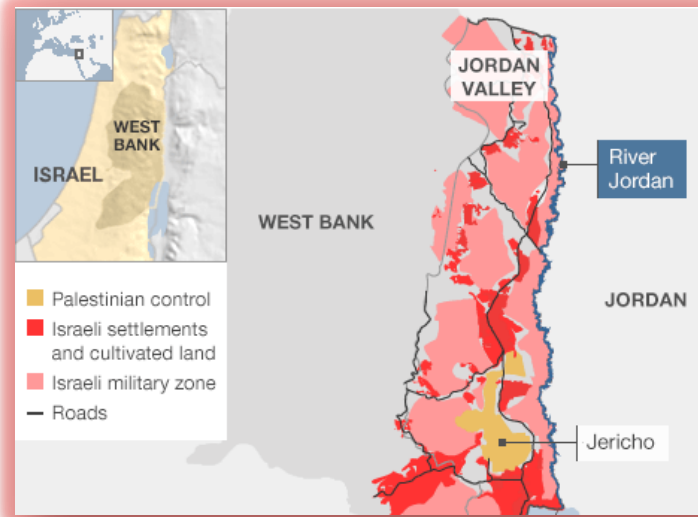


The Jordan Valley economy is based primarily on agriculture, animal grazing and tourism. The area remains dependent on urban centers in Jericho, Nablus, and Tubas for educational services, especially secondary and university education, and on the cities of Jericho, Jenin, Nablus, Jerusalem, and Bethlehem for health services. The Jordan Valley is a unique area that offers opportunities in nearly all major economic sectors.

2.4 Current Situation In The Lower Part Of The Jordan River

The current situation in the Jordan Valley is deteriorating, affecting adversely the socioeconomic and living standards of Palestinians residing there. Main ecological, environmental and political factors have been preventing Palestine from enjoying its right as a riparian country to the Jordan River.

The study area can be classified as the area with no proper water facilities, leading to shortage of water and no proper waste-water facilities leading to water and environmental pollution. Water consumption dips to 20 litres/capita/day (l/c/d) in many herding communities in the area during summer days, compared to the WHO recommendation of 100 l/c/d and the average settlement consumption of 300 l/c/d (UNOCHA FACTSHEET 2012). The main available water resources in the study area are groundwater, surface



water, purchased water and cisterns (rain water harvesting). Groundwater is the main source of water in the study area. The Palestinian shared water resources are controlled by Israel, which abstracts approximately 85% of the groundwater for its own purposes, including for the settlements in the LJR. Meanwhile the Jordan river surface water resources are diverted fully by Israel and Jordan, without anything being allocated to the Palestinians despite the fact that Palestine is a riparian country to the Jordan River Basin. The Eastern aquifer system underlies the study area. Currently, well water in the study area is only available from the Eastern aquifer system and access to ground water is tightly regulated by the Israeli Civil Administration and few new wells have been authorized since 1976. Well water is used primarily to satisfy domestic and urban demand. Several springs from the Eastern aquifer system provide water to both domestic but mainly to agriculture.

Due to Israeli restrictions, There are no storage facilities in the area except for the newly constructed earth fill dam on Wadi Auja. For that, surface runoff is not utilized properly. Additionally there is no treatment plants (except the new WWTP in Jericho Area) in the study area as all generated wastewater is dumped in cesspits or discharged into open

channels and natural wadis. It should also be mentioned that Israeli wastewater flows untreated from outside the study area to the study area through wadis and natural channels. Limited desalination plants in the study area despite the fact that some groundwater wells starts to read high salinity values. No real conveyance system in the study area which would allow for better water management on the study area level. Also, no national carrier exists similar to the ones in Jordan, East Ghor Canal, and the Israeli national Carrier in Israel.

The issues are not only limited to access to water resources, but also sustainability of biodiversity, natural resources and ecology. The lack of sovereign control over natural resources is one of the main factors contributing to the worsening situation in the Jordan Valley. The lower part of the Jordan valley contains one of the richest water resources and the most fertile land in Palestine. It grounds approximately one third of the water reserve in Palestine and it contains water from the Jordan River Basin, underground water from the Eastern Aquifer and water flowing into the Jordan River from the West Bank. The Jordan River is the most important shared surface water resource for Palestinians. It supplies up to 890 MCM/year of water to Israel and none to the Palestinians. Most of Israel's fresh water supplies are drawn from the shared groundwater and common surface water resources –about 550 MCM/Y from the Mountain Aquifer and up to 890 MCM/Y from the diverted Jordan River. The illegal Israeli settlers in the LJR consume approximately 6.6 times more water per capita annually than the approximately all Palestinian residents.



Israel controls Palestinian access to water in two main ways. First, Israel requires that permits be obtained by Palestinians for the drilling of new wells and the upgrade of existing ones. However, such permits are rarely granted from JWC, and if the well is located in area C another approval should be obtained from Israeli Civil

Administration. As such, Palestinians must rely on the decreasing output from wells drilled before 1967.

Second, the Israeli military often restricts access to water sources, citing security reasons. For instance, in some Palestinian villages, because their access to water has been so severely restricted, farmers are unable to cultivate the land, or even to grow small amounts of food for their personal consumption or for animal fodder, and have thus been

forced to reduce the size of their herds. Israel control other natural resources by declaring closed military areas, these areas are rich in natural resources.

Currently, it is estimated that the area lost over 50% of its biodiversity primarily due to loss of fast flow habitats and floods and the high salinity of the water of the Jordan River. The study area faces major problems and threats including the political instability including settlements and military zones, urbanization and lost of farming areas, which impose negative conditions affecting fauna and biodiversity. These threats include water pollution (especially in wadi el Qelt) due to untreated municipal wastewater, unsanitary solid and hazardous waste dumping sites, untreated industrial waste, runoff of agrochemicals such as fertilizers and non-biodegradable pesticides; Threats to wildlife, due to bird hunting, irregular tourism, use of water resources for agriculture (eg. decrease of water pools used by migrating birds during the winter); air and noise pollution are caused by the increase in the industrial activities and in the number of cars; insufficient garbage collection and disposal, illegal dumpsites and uncontrolled burning of garbage pose serious threats to life in urban areas; the construction of buildings on the banks of the wadis and land parcelisation in the oasis are threatening the quality of landscape; In the area of Al Auja, problems to wildlife are caused by the increase of cultivated land; Israeli misuse and overuse of the natural resources in all the Basin of the Dead Sea, as well as in the surrounding water system of the Jordan River, are the major causes of the Dead Sea ecological and environmental deterioration; The lack of public awareness toward environmental issues is at the basis of these problems.

The shortages of water in the study area involves real threats to public health, agricultural, and industrial productivity. Clearly, as the population increases the demand for water increases as well. In the case of the Jordan River, the lack of real alternatives for fresh water so far increases Palestine's need, as a riparian state, to access the Jordan River and fresh water resources.

Regarding cultural heritage and archeology, the Palestinian Jordan valley has been a passageway for many civilizations, archaeological sites date back to the pre-historic era. The remains of more than 20 successive human inhabited areas were found in Jericho, the first of which is Tel es Sultan, located at the north west of the city, and dates back 10,000 years (8000 BC) and is known as the “oldest city in the world”. Remains in archeological sites are concentrated mainly in the western sector of the City of Jericho, but there are also many sites distributed in the Governorate. These sites are the result of the different eras of history, from the Pre-Pottery Neolithic to the Muslim period, through the Bronze age, the Hyksos period, the Canaanite and the Roman periods. All the archaeological sites listed by Ministry of Tourism and Antiquities (MoTA) have been identified, from the most renown sites (Tell es Sultan, Tell es Samarat, Hisham’s Palace, Herod’s Palace) to the most recent excavations. Some of the sites are in really bad conditions. The existing

legal buffer zones for their protection do not provide for good protection and enhancement of the sites. There are also problems linked to urbanization, waste disposal and inappropriate construction and infrastructure due to lack of planning. The pressure of big development projects, the construction of new buildings even in very sensitive areas are really endangering local cultural heritage. At the same time, environmental problems like uncollected garbage and littering, irregular tourism and the over use of water resources that can cause a loss in biodiversity, will seriously affect the landscape. Often sites are not well signaled and are almost inaccessible both to local people and tourists.

The nature of tourism in the area is rich in religious historical sites and unique in natural features such as the Dead Sea and other cultural and heritage sites and activities. Palestine generally is rich in landscape and wildlife. However, the challenges to develop tourism in the Jordan Valley include the lack of a clear national tourism development strategy; lack of resources (financial and human) to manage, develop and promote Palestinian destinations. In addition to insufficient data to conduct reliable planning; run down tourism infrastructure and limited diversification in tourism offering. There is a lack of high quality services and facilities for tourists, like a proper market for the selling of typical local products (cheese, dates, etc); and the handicraft sector is not developed. There is still a narrow vision of tourism, without connections to the different key attractions and with other sectors (for instance agriculture, handicraft etc).

Currently, the economic demise of the Jordan Valley region has worsened substantially in the wake of the severe restrictions imposed on movement to and from other parts of the country since the year 2000. Due to the latter, the tourism activity does not meet its potentials, which has entailed negative consequences on many firms, especially hotels, restaurants, and transportation firms . Due to the intersection of economic sectors, the socioeconomic conditions in the Jordan valley are declining. In general, the economic activity in the Jordan Valley is quite low if compared to other areas of the West Bank (and Palestine as a whole). The Jericho Governorate has the second highest percentage (after the Tubas Governorate) of formally registered agricultural workers in the West Bank, with farming and agricultural production being one of the most important economic sectors. Two major productive centers, Fasayel and AlAuja, are oriented mainly to agricultural production whilst 60% of the commercial activities in the Governorate are located in the district of Jericho.. Nevertheless, the area of Jericho and the Jordan Valley show potential benefits in the fields of tourism, transportation and logistics.

The economy is dependent on several economic sectors. Due to its characteristics, localization and logistics, tourism and agriculture have comparative advantages and are mainly export-oriented. Currently, there are various service sector (shops, restaurants,

etc.) and smaller owner-operated farming that constitute an internal market-oriented sector.

In addition to a sharply declining economy and thereby declining income levels, the living conditions in the Jordan Valley have deteriorated further as a consequence of severe setbacks in the quality of vital services available to local inhabitants. Housing conditions are among the worst in the Middle East, whether on account of crowdedness or hygiene. This is a direct result of the very strict restrictions imposed on construction activities, especially outside the boundaries of the existing Palestinian towns. Despite the abundance of water resources in the region, the amount and quality of water available for drinking and house use are unsatisfactory. Underlying the dynamics of population shifts is a mix of profound socio-economic factors. Living conditions among the Palestinians who dwell in the Jordan Valley are probably the worst in Palestine. The poverty levels are well in excess of 60 percent, mainly due to severe restrictions imposed on transportation, access to land and water resources. Furthermore, this region is particularly vulnerable to the severe losses caused by occasional natural disasters, such as floods, frost, and hail storms.

Additionally, educational services are probably the weakest in Palestine. Because of the noticeably small and widely dispersed nature of villages, local schools in most villages are only of an elementary level (six years of schooling), which means that pupils going into higher classes are obliged to commute (mostly on foot) to schools in other villages. Additionally, there is huge shortage in the teaching faculties among schools, in terms of numbers and experience, highly affecting the quality of teaching. Similarly, health services are noticeably dismal. It is true that nearly all villages have public clinics, but in most cases those clinics are grossly deficient in medical staff and supplies

The sustainable development of the area, including healthcare and educational facilities, and the food security for residents are highly dependent on the availability of water, well developed infrastructure, human resources and free movement of goods. Water for irrigation is a crucial resource for food production, thus its availability and accessibility is imperative for the local population. The Jordan Valley is classified as arid, with rainfall not exceeding 300 mm per year in the northern part and less than 150 mm in the southern part of the study area. The change in rainfall quantity and consecutive drought events witnessed over the past five years in the area have affected the livelihoods of the communities living across the Valley. However, the magnitude of impact varies from one place to another, especially among the marginal and Bedouin communities in the area. The region's political sensitivity and Israeli restrictions on movement and access play a major role in limiting residents' possibilities for improving their livelihoods.

2.5 Legal, Regulatory and Institutional Framework

Currently, Palestinian water rights to the Lower part of Jordan River (LJR) are denied, despite Palestine being a riparian country to Jordan River, and having historical claims to the waters of the LPJR. Palestinian concerted efforts should be directed towards establishing Palestinian water rights. Further, water rights must be defined based on a formula of equitable sharing, to ensure the basis for sustained management of these limited water resources.

International legal agreements applicable to the LJR include The Helsinki Rules, on the Uses of the Waters of International Rivers, adopted by the International Law Association in 1966 and the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses are two of the most referenced and developed of international legal agreements on the uses of transboundary watercourses. The latter, provides principles of water rights, and exists for the equitable and reasonable allocation of freshwater resources between riparian countries in a river basin. Such legal agreements could provide a framework in which freshwater is shared between Israel and Palestine in an equitable manner, and which takes into consideration environmental concerns and future water needs. Needless to say, current restrictions on Palestinian water use do not meet the criteria for equitable sharing between riparian of the LPJR. Agreement on the available water quantities to be distributed on an equitable basis as well as full accessibility on these resources is thus needed in order to provide a basis for sustained management of these limited water resources.

Other applicable international agreement is UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage of 1972. Palestine became a state party to the agreement in 2011. The Jordan valley falls under the protection of this agreement as a cultural heritage area. Thus, the agreement binds Palestine and other state parties to the agreement, the riparian countries Israel and Jordan, as responsible states to protect and develop the Jordan Valley under the principles of the agreement based on the needs of the area.

2.5.1 Existing Agreements

The LPJR is governed by national laws and regulations in force in Palestine, as well as specific regulations and agreements which govern the legal system and institutional infrastructure. The following is an overview of these laws regulations and agreements, and the institutions that are entrusted to implement them:

2.5.1.1 Declaration of Principles

This is the first Bi-lateral Agreement between the PNA and Israel signed on 13 September 1993. According to this agreement, water issues were to be discussed by the

Permanent Palestinian Israeli Committee for Economic Co-operation. It was agreed to prepare plans for water rights, and equitable use of water for the shared resources. However, this agreement did not identify the water rights for each party.

2.5.1.2 Oslo I Agreement

Which is the temporary Agreement regarding autonomous rule of the Palestinian Authority in Jericho and the Gaza Strip, signed on 4 May, 1994. Article 2 paragraph 31 deals with the water issues in the two regions. A limited authority on water uses was transferred to the Palestinian Authority.

2.5.1.3 Water And Wastewater Agreements With The Israeli Side

The Palestinian-Israeli Interim Agreement on the West Bank and Gaza Strip (OSLO II), Washington, D.C, September 28, 1995; Annex III, Protocol Concerning Civil Affairs, Article 40, Water and Sewerage. Essentially Article 40, was based on Israel's recognition of Palestinian water rights in, at that time, the West Bank, part of Palestine by agreeing to:

- Set governance arrangements for a five year interim period, notably a Joint Water Committee (JWC) to oversee management of the aquifers, with decisions to be based on consensus between the two parties.
- Allocated to either party specific quantities of the three West Bank aquifers underlying both territories - the share allocated to the Palestinian West Bank was about one quarter of the allocation to Israel and the settlements.
- Provided for interim extra supplies from new wells and from Mekorot as immediate needs- an extra 28.6. MCM was to be allocated to Palestinian needs.
- Estimated needs for the interim period for the Palestinian West Bank at 70-80 MCM, and around 78 MCM need to be developed for the Palestinians during the interim period .

2.5.1.4 MOU on Guidelines and Technical Criteria for Sewerage Projects

The MOU was signed on December 31, 2003, Israeli-Palestinian “Joint Water Committee” and it sets out agreements for the collection systems, wastewater treatment, sludge treatment, effluent reuse and disposal, sludge reuse and disposal and cooperation between the two sides. The very high standards in this MOU restrict donors’ involvement and makes implementation costly and very difficult for Palestinians even though a phased implementation approach to meeting requirements has been agreed upon.

The MOU followed by the Joint Water Committee records signed in 2009 are the most recent document that governs wastewater treatment and reuse standards and will

consequently drive the treatment technology and reuse strategies that will be used in Palestine. The interim water and wastewater Agreement “Article 40” of Oslo 2 will be used as the basis for water sector planning and project implementation during the “interim period” and until a final status agreement is reached. These are to be negotiated and settled in the Permanent Status Agreement relating to the various water resources.

2.5.1.5 Paris Protocol

Palestine and Israel are bilaterally bound by the Paris Protocol, which formulates Annex IV of the Oslo Agreement, and which was intended to be a short term agreement following suit with the Interim Agreement that Oslo was intended to be. The protocol was intended to ensure economic continuity for the interim period for the Palestinian economy, while opening the doors for independent economic policy making for the Palestinian Authority. The Protocol took the shape of a customs union, temporarily adopting the Israeli foreign trade regime as the working trade regime of Palestine. The Paris Protocol, included Palestinian powers to regulate the internal market, as well as a lists A-1, A-2 and B, which were to address Palestinian market and development needs, and which were to formulate the beginnings of the Palestinian tariff book in preparation for economic independence. The lists allowed for certain quotas of goods which were to enter the Palestinian market based on Palestinian tariffs and standards requirements, and were to be reviewed every six months by the Joint Palestinian – Israeli Economic Committee (JEC), for quantities and goods that would meet Palestinian market and development needs. Since the implementation of the Oslo Agreement, however, the lists were only reviewed and expanded twice due to Israeli refusal to discuss them.

The Paris Protocol (PP) is partially and ineffectively implemented. The PP was signed in 1994 aiming to maintain the free movement of goods and labor between Palestine and Israel within the framework of customs union. The Palestinians viewed that, with international aid and support, the PP provided the basis for sustainable growth of the Palestinian economy. However, facts are in sharp contrast with this vision. The Israeli restrictions of movement of goods and people, and closure of roads and areas, resulted in one-sided decision making by Israel, which created a dependency on the Israeli market for goods and labor and in a huge structural economic imbalance between the two economies.

The implementation of the PP in accordance with its basic rules of free movement of labor and goods, would have encouraged competitive trade between the Palestine and Israel and supported the development of a viable Palestinian economy. Unfortunately, due to the violation of the PP by Israel, the Palestinian economy is unable to utilize the built in mechanisms put in place with the aim of the establishment of an independent economy.

2.5.2 Palestinian Legal framework

Despite being a riparian to the LPJR, the Palestinian Authority (PNA) has no direct control over the LJR itself and little over the surrounding riparian zone. As a result of the Interim (Oslo I and II) Agreements, and the agreement on the handover of responsibilities between the Palestine Liberation Organization and the government of Israel, the Jordan Valley was divided to 3 different categories of land², security and civil administration. This division has resulted in a serious problem for the enforcement of laws and Palestinian development potential in the Jordan Valley, whereby any establishment that is to be created in area “C”, which comprises 88%³ of total Jordan Valley area, (whether residential or commercial) must receive its licensing and building permits from the Israeli Ministry of Defense’s Civil Administration. This does not function in accordance with the PNA’s development plans, and causes tremendous delays and costs to development plans. Furthermore, access to the river by Palestinians is limited, and thus, there is little domestic Palestinian tourism or other use of the river. In the 1996, the Palestinian Water Authority (PWA) was established. In 2003, the Water Law has been issued by the Palestinian Authority. The Palestinian Water Law identifies further responsibilities for the PWA for the management/regulation of water, drainage and sewage affairs.. Although the law transfers the licensing jurisdiction to the PWA and requires the detailed water registry, the ownership of the water resources is not transferred to the Palestinian Authority.

Water administration and regulations in the occupied Palestinian territory derived from the Islamic Water Law principles. Some of the laws were enacted by the British Mandate during 1930s. Between 1952 and 1967 the Jordanian Government enacted several laws. Although the Jordanian Laws have been changed after 1967, none of the adjustments are in effect in Palestine. Instead, Israeli Military Orders have adjusted some of the previous laws. These orders have amended all other water laws made prior to 1967.

In 2014, the President has approved the updated new water law: This law aims to develop and manage the Water Resources in Palestine, to increase their capacity, to improve their quality, to preserve and protect them from pollution and depletion, and to improve the level of water services through the implementation of integrated and sustainable water resources management principles.

² The land is divided into area “A”, Area “B” and Area “C”, in accordance with the Oslo Agreement. Area “A” is under administrative and security control of the Palestinian Authority, while Area “B” is under Palestinian administrative control, but Israeli security control. Area “C” is under Israeli administrative and security control.

³ B'Tselem - The Israeli Information Center for Human Rights in the Occupied Territories http://www.btselem.org/jordan_valley

The Palestinian Water Authority (PWA) has prepared the National Water and wastewater Strategy for Palestine in 2013 planning and management framework necessary for the protection, conservation, sustainable management and development of water resources and for the improvement and sustainable management and provision of water supply and wastewater services and related standards in the Palestinian Territories and outlining the massive investment program of projects and activities needed for water sector development in the occupied Palestinian territory from 2012 till 2032.

2.5.2.1 Legal and Regulatory Environment

Palestinian environmental law of 1999 sets the objects of its laws in Article 2 as follows

Article (2)

The objectives of this law are:

1. Protection of the environment against all forms and types of pollution;
2. Protection of Public health and welfare;
3. Insertion of the bases of environmental protection in social and economic development plans; and encouragement of sustainable development of vital resources in a manner that preserves the rights of future generations;
4. Protection of bio-diversity and environmentally sensitive areas, as well as improvement of environmentally harmed areas;
5. Encouragement of collection and publication of environment-related information to raise public awareness of environmental problems.

2.5.2.2 Tourism and Antiquities

Ministry of Tourism and Antiquities is working at renewing its tourism law. The basic law of 1968 with its modifications and instructions will have to adapt to current challenges and needs. At the level of the tourism professions, the law will identify the variety of accommodations and agents, restaurants and other facilities. It will also indicate a general structure for the public private joint leading council that will carry responsibilities in marketing and development.

A new hotel classification system is underway and expected to have all hotel in Palestine classified between 1-5 stars by end of July or August 2013. An ad-hoc joint committee was established for this purpose. Other initiatives are also underway on the level of tourism signage, tourism education, and rehabilitation of sites and other

Enforcement of the aforementioned laws in the Jordan Valley is the main concern of almost all levels of society and as such all economic sectors too.

2.5.2.3 Palestinian Authority Addressing The Legal Issues

Considering the limited land area in which the PNA is capable of enforcing its policies within the Jordan Valley, the PNA has invested a great deal of effort in developing policy frameworks aimed at potential economic development, as well as residential expansion in the Jordan Valley. The PNA has long considered the Jordan Valley as both the area of potential expansion in residence, for the absorption of the growing Palestinian population.. The Jordan Valley has been envisioned as a potential “bread basket” for Palestine. As such the PNA has undertaken the development of several plans for development of agriculture, industry and tourism in the Jordan Valley. This has led to the PNA’s directing of donor funding and investment into the Jordan Valley, for example, the Japanese funded program of the “Corridor of Peace and Prosperity”, which aims to provide basic infrastructure to operate an agri-industrial zone and to create more tourist attractions in the Ghor region.

3 Basis of the Master Plan

The master plan was developed on the basis of a prolonged research process which took into consideration heavy desk research into existing literature, the utilization of the Palestinian National Development Plans and strategies, the Millenium Development Goals identified by the United Nations, as well as an intensified process of stakeholder consultations, including all relevant public, private and civil society.

3.1 Millennium Development Goals

The master plan adopts the Millennium development goals for the sustainable development of the LJR. The aim of the Millennium Development Goals (MDGs) is for government to focus attention on the attainment of the goals set forth in the Covenant. These goals are: eradication of extreme poverty and hunger; achieving universal primary education; promoting gender equality and empowering women; reducing child mortality; improving maternal health; combating HIV/AIDS, malaria and other diseases; ensuring environmental sustainability and developing a global partnership for development.



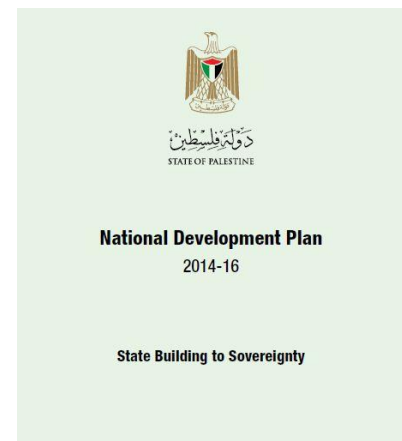
The attainment of the MDGs is anchored on three aspects of human development involving (1) strengthening human capital, (2) improving infrastructure and (3) increasing social, economic and political rights. Indicators identified in measuring human capital include improving health, nutrition and education. Improving infrastructure

requires increasing access to safe drinking water, transportation, information/communication technology including environmental sustainability. Lastly, the social, economic and political rights are concerned with empowering women, reducing violence, increasing political voice, ensuring equal access to public services, and increasing security of property rights. The latter is reflected in the master plan's interventions section, which is focused on the attainment of the MDG, through achieving the mentioned goals including improving infrastructure and strengthening human capital.

The UN Millennium development goals reinforce the interventions' objectives that are intended to meet the needs of the inhabitants in the Palestinian part of the Lower part of the Jordan River (LPJR) Basin in the long term. The overall goal of the interventions combined, is to manage the socioeconomic indicators and to create an enabling investment environment that supports businesses prosperity and growth, and thereby supporting the economy through lowering poverty and unemployment rates, achieving universal primary and secondary education, promoting gender equality, empowering women and ensuring environmental sustainability. The interventions included in this master plan were reached after carefully studying the living conditions in the LPJR and are based on an assessment made through consultations, both formal and informal, including events, workshops and meetings made with LPJR residents; representatives of the public sector and local government; private sector and civil society.

3.2 Palestinian National Sectoral Development Plan 2014-2016

In addition to the MDGs, the interventions are formulated to support the goals of the Palestinian National Sectoral Plan 2014-2016. The main objective is to attain sustainable economic development. It is clearly a challenge to reverse the effects of decades of occupation and redevelop the economy, as there are no quick solutions, but the Strategic Economic Transformation Programme supported by the National Development Plan, which is created to end economic hardship and lay the economic foundations for a sustainable independent state. The National Development Plan lays down a number of strategic objectives, including economic development and employment which aim at robusting foundations for an equitable and sustainable national economy. The PNP materializes sustainable development, provides for decent employment opportunities and enhances productivity. In addition, to a strategy that focusses on social protection and development. It is focused on providing sustainable, high quality, human resource based and gender sensitive social services, that contribute to maintaining social justice between social



groups and areas. The services are focused on providing protection and empowerment to all people including women, children, elderly and people with disabilities.

The National development plan also focuses on development of infrastructure as a strategic objective, to contribute to the connectivity between Palestinian cities and areas through creating an effective transportation system, and support the growth of economic sectors. lastly the National development plan adds good governance and institution building on the grounds of respect for human rights, fundamental freedoms and citizenship rights. the aim is to create a transparent and efficient management and allocation of public finances, enhanced ability to provide security and access to justice. And more effective delivery and accessibility of public services.

3.3 Research and Available Data

The team of consultants undertook highly intensified desk and field research of all available sources of data, including creating a geographic information system which was utilized to plot all findings and identify scenarios of inputs and interventions and their impact. The desk and field reseach included the following areas:

1. GIS and Information Management
2. The Basin
3. Geography and Land use
4. Water Resources and Supply
5. Ecology
6. Pollution Sources and Control Measures
7. Cultural Heritage and Archeology
8. Infrastructure and Transportation
9. Population in the basin
10. Socio-economic circumstances
11. Agriculture
12. Tourism
13. Industry
14. Human Water Demands
15. Stakeholders Analysis
16. Geo-political Situation in the Lower part of the Jordan River Basin

The research was utilized to create a baseline of research in order to clearly identify the current situation, potential areas of conflict, areas of development and required actions needed to correct the situation and main constraints that would face such implementation aimed at correction of the current settings.

3.4 Stakeholder Consultations

Once the baseline was established, the team met on an individual basis, as well as in workshops and small meetings with stakeholders from public sector, such as representatives of the Palestinian Water Authority, the Ministry of Local Government, The Ministry of Economy, Ministry of Health, Ministry of Education, Ministry of Tourism, Ministry of Agriculture, among others. The team also met with the governorate of Jericho and Tubas in workshops held in the region, which included The governors, local municipalities and village councils, farmers, workers, and representatives of women’s organizations, cooperatives and civil society, as well as the private sector.



The meetings and workshops were intended to get input from the various stakeholders on the issues that the region faces in socioeconomic development on the macro level as well as within specific sectors. The findings of the research were presented to the stakeholders to get feedback and to enrich the findings, and potential interventions needed were presented, which were based on the real situation and the needs of the various parties involved in the LPJR, including the residents, economic actors, policy and regulatory agencies and others. Based on the feedback obtained from these consultations, the team was then able to develop the interventions, which are aimed at meeting the needs of the community and long term vision for socioeconomic development.



3.5 Objectives of the Master Plan

The following proposed interventions envision the strategic objectives of the Palestinian National plan as follow:

Based on the aforementioned, the team developed an overall objective of the master plan, which is “to achieve sustainable socioeconomic development resulting from an investment enabling environment that supports business prosperity and growth, through lowering poverty and unemployment”.

The goals of the master plan can be summarized in the following:

- 1) Strengthening human capital,
- 2) improving health, nutrition and education,
- 3) Improving infrastructure,

- a. increasing access to water,
- b. transportation,
- c. information/communication technology
- 4) Environmental sustainability,
- 5) Increasing social, economic, and political rights,
- 6) Increasing potential for economic development and higher standards of living.

4 Challenges and assumptions

The main challenges that could face the implementation of the master plan can be summarized in the following:

4.1 Assumptions for 2015-2020

This period assumes a world in which the political situation in the region stagnates or worsens while the economic situation stagnates due to donor support to stabilize the conditions in the area. The period is characterized by the following:

- No peace
- Minimal economic growth
- Unilateral decisions make it impossible to solve water problem in the region
- Water becomes increasingly expensive
- Continuous decline in agricultural area irrigated with fresh water
- Minimum improvements in Infrastructure in many parts of the region
- The poor suffer consequences of deteriorating environment most
- Middle class is disappearing
- Expansion of Israeli settlements , loss of Palestinian lands to the Israeli occupation
- Israeli control of Area C.

This will lead to:

- Continuous donor support and investments due to political instability
- Need of finances for maintenance or improvement of water infrastructure
- increasing energy costs/oil prices
- scarcity improves public awareness → water a precious good
- water allocation in favor of domestic sector
- rain-fed agriculture becomes increasingly difficult

Based on the above, the main challenges are:

- Slow deterioration of water infrastructure

- Donor money only for crisis management
- Privatization of water sector leading to an increase of water prices
- *Inequitable distribution and Israeli Control of West Bank Water Resources:* The West Bank groundwater resources are controlled by the Israeli authorities, which abstract approximately 85% of its groundwater for its own purposes, including for the settlements on the West Bank. Meanwhile the Jordan river surface water resources are diverted fully by Israel and Jordan, without anything being allocated to the Palestinians. On the other hand Israel transfers and sells about 50 MCM Per year of water from Israel to the West Bank
- *Palestinian Movement Restrictions in West Bank and the Jordan Valley:* Israel operates many military checkpoints throughout the West Bank for the Palestinians, which create obstacles for free transport of persons and equipment such as pumps, fuel and water supply equipment, particularly in the areas B and C.
- *Destruction of vital water infrastructure:* Conflicts between Israel and Palestine in the West Bank have caused destruction and damages to existing Palestinian water infrastructure, including Palestinian wells and pipelines, and closing off water supply networks.

4.2 Specific challenges for 2020-2050

At the beginning of the period, the assumption is that Palestine is a sovereign and independent state, living in peace with its neighboring countries and enjoying economic growth and rights as a riparian country. The main characteristics are:

- Peace
- Economic prosperity
- In addition to the right to develop groundwater and surface water resources, the overall water availability can be increased through high-tech solutions
 - desalination plants
 - Reuse of treated wastewater
 - Rainwater Harvesting
- Innovative industries are growing fast
- Pressure on nature increases due to increasing population and growing tourist industry
- Availability of financial resources and the level of public awareness guarantee sustainable development to the above will lead to
- political stability yields large amounts of money from international donors for water infrastructure
- fast spread of newest technologies for industry & agriculture, water- and solar-technology industries.

- increasing in-migration of Palestinians (500,000 by 2050)
- nuclear families as social units, become smaller
- intensification/industrialization of agriculture (more greenhouses and/or plastic tunnels, as well as other agricultural technologies)
- high quality treated waste water available
- high production & consumption levels (incl. tourism) → environmental pollution (related to “luxury problems”)
- early start of large scale water projects
- investment in all sectors leads to decrease of unemployment rate to < 10%
- strong tourism industry in Dead Sea area
- increasing environmental awareness + newest technologies → env. pollution decreases

Palestine as a riparian country has the right to equitable allocation of water and resources from the LJR. Customary international norms set forth in documents such as the Helsinki Rules, the Basel Convention, and the Convention on Non-Navigational Uses of transboundary watercourses require that a riparian be given a reasonable and equitable share or utilization of its water and that riparians not cause appreciable harm to neighboring riparian states. These two principles support Palestine’s access to sources such as the Jordan River, and Palestine’s right to clean and sanitary water that is not polluted by industrial effluent and settler wastewater⁴. According to the international recognized conventions on water law and the U.N, riparian rights are interpreted through General Assembly Resolution No. 3281.64, which include the following concepts, which have been incorporated into the Convention on the Non-Navigational Use of Watercourses:

In their use of water, riparian states should not infringe upon the legal interests of the other riparian states (expressed by various terms in the Convention, such as Article 5/1); • In their utilization of water, riparian states should not substantially harm the other riparian states; this notion is encompassed under the phrase “not to cause significant harm” in the Convention, Article 7.65

The Convention focuses on two main principles of customary water law. The first is the “equitable and reasonable utilization” of watercourses. and the second is the “obligation not to cause appreciable harm” to other states’ watercourses.⁵

4 Niehuss, Juliette. "The Legal Implications of the Israeli-Palestinian Water Crisis." *Sustainable Development Law & Policy*, Winter 2005,13-18, 76.

5 Convention on the Law of the Non-navigational uses of International Watercourses, United Nations International Law Commission, G.A. RES. 51/229, U.N. Doc. A/51/869, May 21, 1997, available at <http://www.un.org/law/ilc/texts/nonnav.htm>

The Convention requires several factors to be taken into account when determining whether the reasonable and equitable utilization of a watercourse, such as the watercourse state's social and economic needs, its population needs, conservation concerns, the effects of the use of water, and the availability of alternative uses of the watercourse. Moreover, the Convention confers an obligation on watercourse states to "take all appropriate measures to prevent the causing of significant harm to other watercourse states," and creates an obligation to mitigate or eliminate harms when they do occur. Palestine will be challenged to uphold to these principles and responsibilities. Thus, it will need to build an infrastructure, human capacity and capabilities to adhere to obligations.

The main challenges seen during this period are:

- Increasing water demand due to changing life styles
- Immigration waves into region
- Early start of large-scale water projects possible
- High production and consumption levels (incl. tourism) → environmental pollution
- The need of experienced human resources to support large scale projects in Palestine.
- Address Insufficient Infrastructure. In those cases where the Palestinians have full control over their infrastructure, the Palestinian Water Authority are often faced by lack of funding development capacities, which slows down construction and repair works.
- Address problems related to wastewater management. The wastewater collection and treatment facilities in the west bank are not advanced. Only a small portion of the palestinian wastewater is treated and reused. On the other hand, various new treatment plants are currently under construction in the west bank, providing new opportunities to embark on larger scale reuse of wastewater for agricultural purposes.
- Addressing issues of fund management capacities: Palestine depends largely on external international funding for its infrastructure investments. These funds are sometimes put on hold due changing political positions by the donor organizations. Furthermore, these funds depend on particular donor development policies, which might deviate from Palestinian national policies. This all limits the Palestinian freedom in terms of money allocation and fund management.
- Risk of water loss: Many of the water supply systems in Palestine are old, and have high rates of accountant for water. This includes both physical water loss as well as water supply that is not paid for.
- Barriers related to Management Capacities
- Information Shortage: address problems related to hydrological monitoring capacity in Palestine, reducing the possibilities to fully understand the behavior and to manage the groundwater resources.

- Lack of integrated Water Resources Management (IWRM) : the Palestinian Authority does not have adequate means and capacities to implement full IWRM principles, leading to sub-optimal management of the water resources. This is true due to the lack of full control over their water resources and the practices of the Israeli side on these resources. It is worth mentioning that PWA has already started to try to implemnt IWRM with referenced to Technical level, Adminstrative level and socio-economic level, and this was considered as one of the main goals of the on going reform program for the water sector.

Address Water Demand Management: Although PWA (through TPAT program) has developed actions plan and now formulating several regulations aiming at enhancing water demand management, the Palestinian Authority may not have the means and capacities to optimize water demand management principles, leading to relative unnecessary high water losses. This also includes addressing water pricing policies to steer water demands and manage water losses.

4.3 Assumptions on which interventions are based

- 1) all WB areas (based on 1967 borders) of the LPJR will be included in the Palestinian state
- 2) all Israeli settlements will be removed from the Jordan valley
- 3) independent sovereign state of Palestine by 2020
- 4) Palestine is recognized as a riparian to the LPJR and is entitled to an equitable share of the LPJR basin waters based on international law and conventions.

5 Urban and Infrastructure (Socioeconomic) Development

The demography in the Lower part of Jordan River basin (LPRJ), indicates in the 2007 PCBS census that 39.36% of the population was below 15 years of age and 50.61% in the age group 15-64. The average life span is around 65 years, with only a 3.7% exceeding the range of the 60s (PCBS, 2009). From 2007 to 2016 an overall 28% growth is expected in all the urban areas, with no forecast of increase peaks in any specific location. This forecast considers mainly the normal growth rate, given by the past trends and the natal and mortal average. With the harsh living conditions, there is a need to implement interventions that support sustainable socioeconomic development that meets the needs of the growing population. Inhabitants consist mostly of youth, in need of sustainable jobs to cover living expenses and basic needs. The youth is facing high unemployment rates, low income levels and difficulty in finding jobs.

Due to the inaccessibility of land and the Israeli impediments on movement and on attainment of building permits, there is a need to invest in housing to accommodate the growth of population and inhabitants.

5.1 Goal

Based on UN millienium goal to improve living conditions and infrastructure including increasing access to safe drinking water, transportation, information/communication technology.

5.2 Objectives

- Objective 1: Improving the Health and well-being of the Population, including Individual and population health, Community and cultural group cohesion, Family cohesion, and Cultural maintenance.
- Objective 2: Continuous and Sustainable wildlife harvesting, land access and use, Including traditional economy, Recreational and traditional economy – access to land and Value of alternative land uses (e.g. tourism vs. agriculture vs. industry).
- Objective 3: Protecting heritage and cultural resources by preserving the aesthetic, cultural, archaeological and/or spiritual value of places and maintenance of language, education, laws and traditions.
- Objective 4: Maintenance of Equitable business and employment opportunities, Local and regional business competitiveness, training and career development for residents, while ensuring long term sustainability through economic diversification.
- Objective 5: Ensuring Population sustainability through management of in and out migration effects, while minimising change in social and cultural makeup of affected communities.
- Objective 6: Ensuring adequate services and infrastructure such as social services, health care, education, while ensuring the implementation of justice and working towards affordability, availability, and appropriateness of housing, traffic and road safety and other physical and commercial infrastructure.



- Objective 7: Ensure adequate sustainable income and lifestyle, reasonable cost of living, and adequate distribution of costs/benefits among affected people through impact equity and avoidance of Adverse lifestyle changes.

5.3 Challenges

- Intensified restrictions imposed by the occupation on construction activities, especially in Area “C”,
- The Existence of Israeli illegal settlements and their utilisation of Palestinian land and resources in the LJV
- Lack of enforcement of existing laws,
- Sharply declining income levels,
- Deterioration of living conditions,
- Severe setbacks in the quality of vital services available to local inhabitants,
- Housing conditions are among the worst in the Middle East, on account of crowdedness or hygiene,
- The restricted accessibility to natural resources including water.
- The dynamics of population shifts is a mix of profound socio-economic factors.
- Below par living conditions (probably the worst in Palestine) The poverty levels are well in excess of 60 percent.
- The region is particularly vulnerable to the losses caused by occasional natural hazards, such as floods, frost, and hail storms.

5.4 Rationale and Assumptions

Since over 87% of the area of LPJR falls within the bounds of Area C, it is important to consider the current socioeconomic circumstances that result from Israeli control of Area C, and that hinder any sustainable development in the study area (UNOCHA Jordan Valley factsheet, 2012) Given the fundamental importance of land to economic activity and development, the impact of continued Israeli full control of “Area C” (61 % of the West Bank) cannot be underestimated. Land is a common means of storing wealth and a powerful economic asset; it provides a foundation for economic activity in sectors as varied as agriculture, industry, housing, and tourism; as well as being a key factor in the

functioning of credit markets due to land registration requirements for collateral in access to finance. Thus, the effects on the Palestinian economy of the current territorial distribution are manifold. The physical access restrictions are the most visible, but perhaps not the most pernicious. The land use and planning regulations in effect in “Area C” tend to limit development within the confines of existing villages, with too little suitable space for demographic growth, causing irrational land use and unsound environmental management. Predictably, economic activity in “Area C” is limited primarily to low intensity agriculture. High intensity investments, whether agricultural, industrial, housing, tourism, and others are hindered by the inability to obtain construction permits from the Israeli authorities and the limited amount of titled land available. (Economic Monitoring Report to the Ad Hoc Liaison Committee, September 2010).

To achieve successful economic development, land is fundamental; in addition to resources such as water and minerals, salts, for the allocation of population; expanding agriculture and industry; tourism and housing. Establishing successful governance and a functioning economy, control and access over a defined territory are necessary. “Area C” comprises 61 percent of the occupied West Bank of Palestine, and it connects 227 small, separate and heavily residential areas. It is fundamental for sustainable economic development, and the key to economic cohesion. Area C is also the most resource abundant space in the West Bank holding the majority of the territory’s water, agricultural lands, natural resources, and land reserves that provide an economic foundation for growth in key sectors of the economy.

According to the 1993 Oslo Accords, “Area C” was supposed to be gradually transferred to the Palestinian Authority (PNA) for full control and administration⁶. This transfer never occurred. On the contrary, the Israeli confiscation of lands to establish settlements located in “Area C” in the West Bank is reflected in the weakness of the Palestinian economy that stems from the territorial fragmentation and the limited access and control over the Palestinian territory. The fragmentation of Palestinian land is expanding through the presence and continuous establishment of Israeli settlements and outposts, which results in badly connected Palestinian communities and cities.⁷

6 The Oslo Accords, Annex I: Protocol Concerning Redeployment and Security Arrangements, Article I—Redeployment of Israeli Military Forces and Transfer of Responsibility. Oslo II defines “Area C” as: “areas of the West Bank outside Areas A and B, which, except for the issues that will be negotiated in the permanent status negotiations, will be gradually transferred to Palestinian jurisdiction in accordance with this Agreement”.

7 See UN Committee on the Elimination of Racial Discrimination Eightieth session. Israel Report: Concluding observations of the Committee on the Elimination of Racial Discrimination. March 09, 2012. and see Al-Haq 2012. “Apartheid, segregation and institutionalized racism: UN Committee “Appalled” by Israel’s Racial Discrimination.” March 14, 2012

The World Bank states that the areas controlled by the settlers exceeds 68 percent of “Area C”, which has overwhelming consequences on the Palestinian economic development. Unfortunately the ongoing policy of building settlements in “Area C”, and the establishment of outposts⁸, cost Palestine substantive elements for economic growth and alter the contiguity of Palestinian lands. Only 1% of “Area C”, is already built up, for Palestinian use; another 18 to 20 percent is accessible for agricultural land, the remainder of the area is heavily restricted or off-limits to Palestinians. In fact, the small percent is practically unavailable and inaccessible for Palestinians for use and development, since it still requires Israeli licensing, which is almost impossible to come by (World Bank, 2013).

"Freeing economic activity in “Area C” would have a particularly high impact on the development of businesses in agriculture and Dead Sea minerals exploitation, stone mining and quarrying, construction, tourism, and telecommunications."(World Bank, 2013).

As a result of lowering operational and transaction costs, other sectors would benefit due to the improvements of the quality and infrastructure, and so result in increased demand for services and goods. The World Bank report estimates that if businesses and farms were permitted to develop in “Area C”, 35 percent would be added to the Palestinian GDP, so increased economic activities would greatly improve the PNA’s fiscal position. (World Bank, 2013).

Based on World Bank estimations, it is evident that if impediments are lifted and Palestinian economic activities are allowed to grow in “Area C”, the Palestinian government would have increased its revenues by US\$800 million, cutting the fiscal deficit by half and so minimizing the need for donor financial support. The latter would also directly reflect in decreased unemployment and poverty rates. The potential growth of the Palestinian economy by approximately six percent annually will boost the labor market and thus create jobs and reduce the unemployment rate.

The World Bank studied the major sectors that would benefit from freeing the economic activity in “Area C”, these sectors include agriculture, the land for which is most abundant in “Area C”, and especially in the Jordan Valley, dead sea minerals, which are currently part of the Dead Sea, located in “Area C” under full Israeli Control. The Bank also considered the construction, telecommunications and tourism sectors which are constrained by the lack of access to Area “C”, as key to the development of the

⁸ Outposts are settlements that are built without the express approval of the Israeli government, but which are facilitated by the Israeli occupation authorities anyway.

Palestinian Economy, . It is estimated that the potential additional output from the sectors would amount to at least USD 2.2 billion annually, equivalent to 23 percent of the estimated Palestinian GDP of 2011. Access to Palestinian fertile land, and sufficient water, would enhance the productivity of these sectors and significantly generate economic growth. Most of the sectors' output would be generated mainly from agriculture in the Jordan Valley and the exploitation of Dead Sea minerals, as the World Bank concludes.

It is significant to note that the aforementioned 2.2 billion, which would accrue to the Palestinian economy, is conditioned on the irrigation of the notional available fertile and forest land for Palestinians in “Area C”. The availability of more water, would add an additional of USD 704 million in value added to the Palestinian economy, equivalent to 7 percent of the estimated 2011 GDP. In addition, the valuable dead sea minerals in “Area C” would yield the Palestinian economy an estimated profit of USD 918 million annually, an equal to 9 percent of 2011 GDP, almost equivalent to the size of the entire Palestinian manufacturing sector.⁹ Other costs are related to the restrictions to access stones for mining and quarrying in “Area C”. The current Palestinian stone mining and quarrying industry is the largest exporter, with exports based on the well-known "Jerusalem Gold Stone". Stone and marble is a struggling economy due to the restrictive Israeli policies and so the inability to obtain permits to open new quarries in “Area C”, or renew existing ones. "If these restrictions are lifted, we estimate that the industry could double in size, increasing value added by some USD 241 million - and adding 2 percent to 2011 Palestinian GDP." (World Bank, 2013).

Additional costs are related to the development of the construction sector. Access to land to expand housing is needed, as the majority of Palestinian areas are highly populated and already built up. According to the UNOCHA and the World Bank estimations, if restrictions on the construction of residential and commercial buildings are lifted, excluding infrastructure projects, the WEST BANK construction sector value will yield about USD 239 million annually, about 2 percent of the estimated Palestinian GDP of 2011.¹⁰

Regarding tourism activity in “Area C” of the LPJR, the area has so much potential to grow and develop. However, restrictive policies on investments and access to the dead-

⁹ For more details, check the world bank report of 2013. Sensitivity of these estimates to different assumptions on key variables is shown in ANNEX 1.

sea and the LJR, have hindered any potential development and investment of touristic sites. According to the World Bank, "If current restrictions are lifted and investment climate in the West Bank improves... Palestinian investors would be able to create a Dead Sea hotel industry equivalent to Israel's, producing value added of some USD 126 million per annum – or 1 percent of 2011 Palestinian GDP" (World Bank, 2013).

Another major economic sector that is highly impacted by the Israeli obstacles in “Area C” LPJR, is telecommunication, due to the restrictions of constructing mobile services towers. The latter has prevented access to needed equipment and better technology and high quality services, restricting Palestinian mobile operators from providing limited services such as 3G frequencies service. Limitations to develop the infrastructure to provide better services, has limited the Palestinians' ability to compete, especially with the Israeli companies, and so Palestinian companies operate in an unfair competitive market. Removing the aforementioned restrictions, would add an estimated USD 48 million in value to the sector, an equal to 0.5 percent of Palestinian 2011 GDP.

It is also important to consider how investors look at the continuous expansion of settlements in the West Bank, and the large increase of demolitions in “Area C” and East Jerusalem, while obtaining a construction license from the Israeli authorities, which exercise exclusive and direct control on security and law enforcement matters, as well as over planning and construction in “Area C” of the Jordan Valley, is nearly impossible.

Employment in the LPJR is mainly in the field of Agriculture, hunting and Fishing; Restaurants and Hotels; Transportation, and Storage Services. Economic activities are closely integrated with external labour markets in the West Bank, Israel, and Israeli settlements near Jericho (PCBS, 2012). On the other hand, the mining and construction sectors seem to be of minor importance compared to the rest of the West Bank. Most of the active population is employed by the private sector. One fifth of the labor force is employed in the Israeli settlements, with a higher percentage than the average for the West Bank.

Considering income, the main income-generating activities in the study area are related to the typology of the community. Bedouin communities rely mainly on herding (88 per cent of all Bedouin communities), while 40 per cent of the villages rely on agriculture and 20 per cent on herding. The most important income generating activity is herding (42 per cent of the total population), followed by agriculture (37 per cent). The rest 21% are generated from industrial activities, where the population is represented by individuals with mixed income sources, for example, workers in Israeli settlements. However, feedback from the field emphasizes obstacles that are created by Israeli policies. These range from limited access to grazing lands to limited access to markets for selling

products. These obstacles are aggravated by natural disasters such as water scarcity due to lower than the already-low rainfall average.

The proposed interventions in this section are based to ensure the development and sustainability of the following Valued Socio-Economic Components, including:

5.4.1 Health and well-being

- Individual and population health
- Community and cultural group cohesion
- Family cohesion
- Cultural maintenance

5.4.2 Sustainable wildlife harvesting,

- land access and use
- Hunting, trapping and gathering – traditional economy
- Recreational and traditional economy – access to land
- Value of alternative land uses (e.g. tourism vs. hunting vs. industry)

5.4.3 Protecting heritage and cultural resources

- The aesthetic, cultural, archaeological and/or spiritual value of places
- Maintenance of language, education, laws and traditions

5.4.4 Equitable business and employment opportunities

- Local, regional and territorial business competitiveness
- Employment opportunities for local, regional and territorial residents
- Training and career development for local, regional, territorial residents
- Avoidance of boom and bust cycles (e.g. via economic diversification)

5.4.5 Population sustainability

- In- and out-migration effects
- Change in social and cultural makeup of affected communities

5.4.6 Adequate services and infrastructure

- Pressures on social services such as health care, education, and justice
- Housing pressures – affordability, availability, and appropriateness
- Traffic and road safety – pressures on physical infrastructure

5.4.7 Adequate sustainable income and lifestyle

- Overall amount of money in the community
- Uses of money in the community – effects of increased disposable income

- Local and regional cost of living
- Distribution of costs/benefits among affected people-impact equity
- Adverse lifestyle changes

5.5 Interventions

The aim to develop detailed urban, infrastructure and physical land use plans for the LPJR, taking into account the foreseen population and economic projections of the independent Palestinian State.

Goal:

Based on UN millienium development goals to improve living conditions including the eradication of extreme poverty and hunger; achieving universal primary education; promoting gender equality and empowering women; reducing child mortality; improving maternal health; combating HIV/AIDS, malaria and other diseases; and, ensuring environmental sustainability

to reach the aforementioned goals there is a need to develop the projected requirements for housing and urban facilities, including planning of (two) new towns; as well as the need for expansion of secondary and primary roads, linkage to national highway system and public transport requirements. This includes planning, management and training aspects and requires Public and private sectors involvement:

- Conduct Physical Master Plans for localities in cooperation with the Jordan Valley Authority and Ministry of Local Government
- Conduct physical planning for existing towns and villages, including roads, residential areas, land development
- Start re-habilitation and construction of secondary roads in the region
- Rehabilitate, construct and connect LJR highway system with the national highway system within the West Bank
- Construct two towns in the Central and Northern JV of up to 50 thousand housing units each with all relevant infrastructure



In the study area, there are 33 schools 16 of which are in the municipality of Jericho and three in the camps (two in Aqbet Jaber, one in Ein Al Sultan); the others are in the villages like Al Auja, Fasayel and Zubeydat. Five schools are administered by UNRWA,

of which one is for females only. The private sector also controls 5 schools, all of which are co-educational.

There is a shortage of classrooms in the study area, and many schools operate on a doubleshift system. In terms of class size, in the governmental sector the average is of 24.9 students per class, whereas in UNRWA run schools there are 34.5 students per class, and in the private sector 28.1 (MOHE, 2012). Concerning upper level education, university centers are located only in the city of Jericho: a branch of the AlQuds Open University was opened in 1997 and is currently attended by 1000 students studying in the faculties of Technology and Applied Sciences, Administrative and Economic Sciences, Education. The goal is to build human capacity and achieve universal primary education; promoting gender equality and empowering women. This requires initially to identify educational and vocational training needs based on current data and future population growth projections. Hence there is a need to conduct an assessment of the LPJR area to identify the number and quality of schools and vocational training centers and where they need to be located, as well as any rehabilitation to existing schools to ensure their utility, coupled with an assessment of specialization needs for vocational and higher education in the short and long term population and development projections. The result of the assessment to identify the needs and prepare an education strategy and master plan for the LPJR, thereby improving education opportunities for the residents and meeting requirements for development of the region.



Part of the strategy and master plan for education is to undertake a school building program that would construct and rehabilitate schools where needed. Hence, the goal is to build modern and efficient elementary and secondary schools to accommodate the needs of the young population (1,000 to 1,500 students per school), including a transportation system for students to go to their schools. This would create access for students to world class education in the LPJR.

Along with the primary and secondary education programs previously mentioned, there is a need to create a Higher Education and Vocational Training Program in the Northern and Jordan Valley, which would build human capacity and aim at establishing a university in the Northern Jordan Valley to accommodate residents and to utilize hands on education and training to meet the developmental needs and the growing population,

including agricultural and environmental research. This should be coupled with the creation of a Vocational Training Center to ensure access to professional trainers and experts who will offer training and information, that will be utilized to develop residents' skills and identify their career choices and development objectives

Along with the educational services development programmes, there is a severe problem facing the LPJR area in health services which needs to be met and resolved. There are currently three public fully equipped primary health care clinics located in the region: one in Nw'eima, one in Ein Dyuk IIFouqa and one in Ein Duyuk Tahta. There are also five district clinics which are located in the surrounding villages. Some 4.000-4.500 persons per month use the Health structures in Jericho. Private health care structures are present in the region: one clinic, three medical centres (Jericho Medical Center, Al Eslah



Center and Medicare) and several Relief Agency clinics, of which, four are run by NGOs and four run by UNRWA. However, most of the health facilities, especially for what concerns specialized or high level services, are located in Jericho city, or even outside the Governorate (in Ramallah) which means great difficulties for the people from distant villages in reaching health facilities. Also, the rest of the villages within the study area depend on the primary health care through contributions

from the Ministry of Health and Medical Relief Committees. There is a shortage of medical supplies and facilities, in addition to insufficient health care services. The current available medical facilities are not meeting the needs of the inhabitants. In order to improve health and nutrition, reduce child mortality; improve maternal health; combat diseases; and, ensure environmental sustainability, This project aims at assessing needs to health care services in the LPJR, and plan for the establishment of Health centers, to identify the existing infrastructure, current and projected needs, including Primary health care centers and clinics, secondary health care centers and tertiary or specialized care to ensure timely access to health services for LJR residents, as well as the provision of Mobile Veterinary Clinics for access to livestock farms.

The purpose of the intended intervention is to initially identify health care needs in the LPJR, and in the short term, provide human resources necessary for the operation of existing health care centers, ensure access to required health care equipment, including emergency vehicles to transport patients to secondary and tertiary care centers in a timely manner;

In the long term, it aims at establishing a specialized secondary and tertiary hospital in the Northern JV to serve the growing population in the area – may be connected to the University to be established in the region with a specialized training hospital; and it aims at establishing Mobile Veterinary clinics that would provide access to livestock farms to veterinary Services.

In order to achieve the upgrading of health services in the LPJR, there is a need to conduct an assessment to identify the short and long term health care with the aim, in the short term, to rehabilitate, equip and staff existing primary health care centers, as well as establish Mobile Veterinary Clinics, while in the Medium Term, the aim is to establish a hospital in the Northern Jordan Valley.

The framework for the electricity power supply varies between the Jordan Valley and the rest of Palestine. In the Jordan Valley there are two different sources: the first is Israeli and is not currently stable, due to insufficient capacity of the facilities. The solution is expected from interconnection with Jordan. The PNA and Jordan have agreed on connecting the Palestinian power grid to the Jordanian with a 33kV transmission line through King Abdullah Bridge, with a capacity of 20MW. A transformer substation is built in the south of the Jericho City and connected to the existing network. The other Palestinian communities get the electricity from JDECO (Jerusalem District Electricity Company), or from the Israeli company.



In the short term, and with reference to the creation of renewable energy solutions, it becomes imperative to create a renewable energy research center in the LPJR, which would lead to the manufacture of related devices and access to utilities. This center would specialize in the research and development of renewable energy which would utilize the potentials in the lower part of the Jordan River Basin to reduce energy costs and protect the environment in the area, while also creating jobs and increasing the renewable energy body of knowledge.

The Jordan Valley is a strategic location that functions as a west – east corridor from the Mediterranean Sea, Israel and Palestine to Jordan and other neighboring countries. It has

also been a North-South transport corridor. The Jordan Valley opens up many opportunities for regional continuity. This includes establishing land transport, energy and communications connections between the parties in the region, as well as logistic facilities to serve both regional and international economic activities which will enable more diverse and efficient routing options for the flow of goods and people, both regionally and internationally. A major component of the economic development of the Palestinian Jordan Valley would be the upgrading of west – east transportation routes and improve telecommunication between Palestinian cities and areas.

Therefore, one of the main issues that need to be tackled in the process of continuously improving the infrastructure required with the objective of increasing access to safe drinking water, transportation and information/communication technology. The interventions target at expanding the electricity grid to cover all residential areas in the Jordan Valley to ensure universal access to electricity; and to develop Telecommunications Networks to ensure access by residents to both voice and data telecommunications. This can be done through mapping Electricity and Telecommunications needs to meet current and future population growth projections.

Along with the process of ensuring electricity supply to all residents and businesses of the Jordan Valley, a move into developing renewable energy resources must be targeted with the objective of constructing renewable energy generation schemes that would both reduce the cost of energy, as well as provide for cleaner and more environmentally friendly energy resources.

In the short to medium term, several actions can be undertaken, which would facilitate doing business in the LPJR and open opportunities for investments and job creation. These include placing the Valley as a hub for logistics and transportation of goods from Palestine to Jordan. One of the major projects identified by the Palestinian private sector and the Ministry of National Economy is the establishment of an import and export logistics center in the LPJR, with the aim of creating an investment environment for business development and trade through establishing a logistics consolidation center in the JV near the Karama (Allenby) bridge to facilitate export and import of goods to/from and through Jordan. The center would facilitate the movement of goods and reduce the cost of transportation, as well as including packaging facilities, bonded houses, refrigeration facilities and trucks that would continue the cooling chain for fresh produce and cooled products. The center would be operated by the private sector with oversight by Palestinian customs.

The Damia/Adam bridge, which was intended to be the Palestinian commercial bridge with Jordan has been closed by the Israeli authorities for the last 17 years under the claim that it required rehabilitation and re-construction. The bridge's location enables it to

service the central and northern West Bank and can reduce cost of transportation through and to the Jordanian Markets, as well as facilitate imports of goods from Jordan to the West Bank. It is therefore suggested that the bridge is to be rehabilitated and open for business as soon as possible in order to enhance Palestinian export and import capacity.

King Abdallah I Bridge, which formulates the shortest distance between Amman and Jerusalem, across the Jordan River, needs to also be rehabilitated and open for operations for the movement of tourists, thereby facilitating tourism from Jordan and opening up the door for joint tourism marketing.

It is further recommended that a full detailed spacial and land utilization plan is to be conducted in order to ensure that proper and sustainable land utilization is undertaken ensuring the protection of both the environment and the natural resources.

The Dead Sea, which formulates a part of the PLJR contains a large reserve of natural resources that can be used to for production and to enhance the Palestinian economy. These natural resources require planning, preparation and the construction of physical plants for their extraction, which should be undertaken either by the government or in cooperation with the private sector.

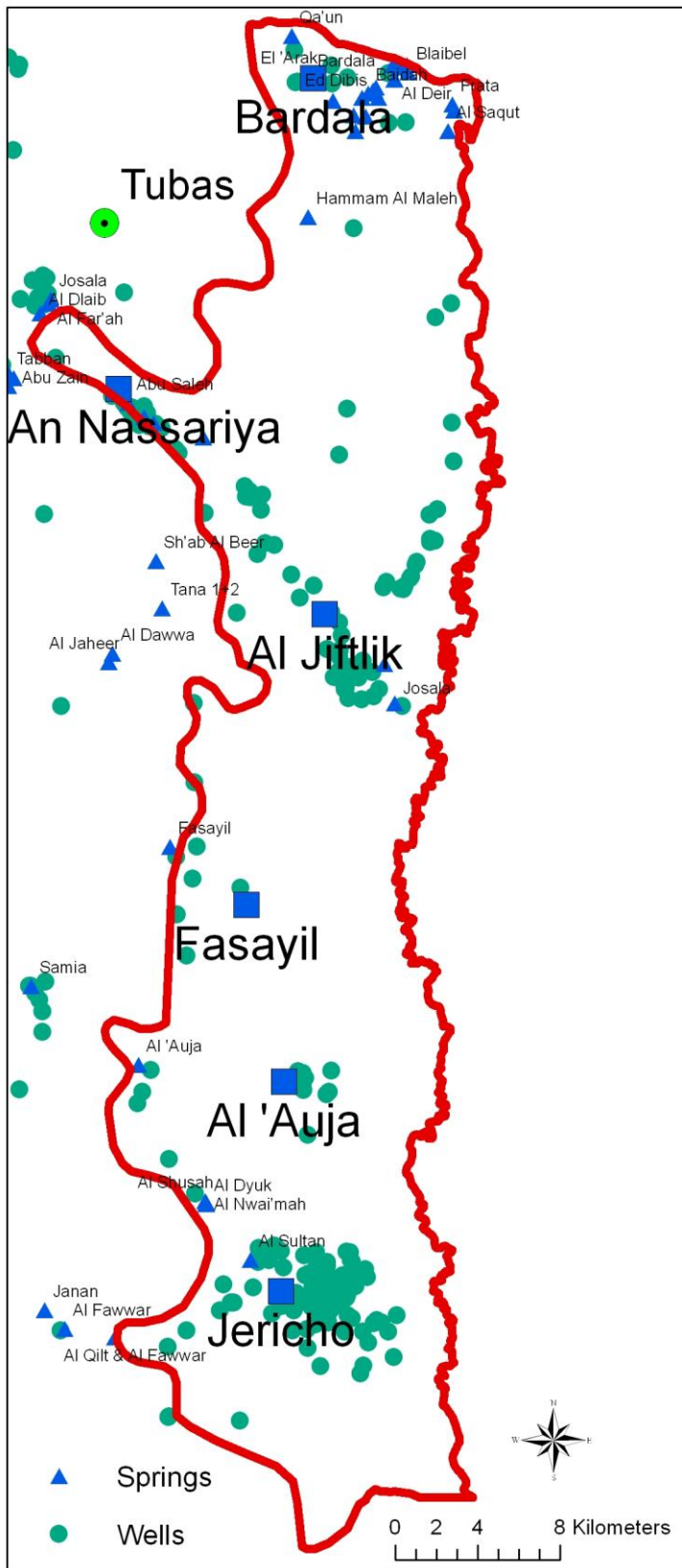
5.5.1 Summary of Urban and Economic Development Interventions : Table 2 summarizes the Urban and Economic Development Interventions

Table 2: Summary of Urban and Economic Development Interventions

Intervention	Estimated Cost (\$)	Target Objectives	Anticipated Start and End Years
U1 Urban and Infrastructure Development Master Plan	Preparation cost: \$10,000,000 Construction cost: \$1,000,000,000 Operation cost: \$100,000/y		2015
U2 Educational and Vocational Needs Assessment	Preparation cost: \$250,000		2015-2016

U3 School Building Program	Preparation cost: \$100,000 Construction cost: \$4,800,000		14 months
U4 Higher Education and Vocational Training Program	Preparation cost: \$300,000 Construction cost: \$10,000,000		4 years
U5 Health Care Services Development Project	Preparation cost: \$1,000,000 Construction cost: \$10,000,000		
U6 Electricity and Telecommunications Development Project	Preparation cost: \$2,000,000 Construction cost: \$200,000,000		6 years
U7 Develop Renewable Energy Resources	Preparation cost: \$2,000,000 Construction cost: \$200,000,000		2020
U8 Import and Export Logistics Center	Preparation cost: \$200,000 Construction cost: \$1,800,000		1.5 years
U9 Adam/ Damia	Preparation cost: \$300,000 Construction cost: \$90,000,000		5 years
U10 Renewable Energy Research Center	Preparation cost: \$1,000,000 Construction cost: \$15,000,000		2 years

U11 King Abdullah Bridge	Preparation costs: \$200,000 Implementation costs: \$ 60,000,000		2016 - 2017
U12 Development of a national spatial plan for the lower part of the Jordan River Basin	Preparation costs: \$200,000 - \$300,000		2015 - 2016
U13 Utilization of Dead Sea Minerals for economic production	Preparation costs: \$ 1,500,000 Implementation costs: \$22,000,000		Preparation time: 1 Yrs. 2018 Construction time: 1 Yrs. 2019



6 Water Management

6.1 Objectives

The following are the main objectives related to water that the master plan is trying to respond:

- 1) **Objective 1:** Ensure the right of each citizen to affordable and sufficient water (when available) of the required quality for the purpose of use.
- 2) **Objective 2:** Ensure and Utilize Palestinian rights in the Jordan River Basin, as a riparian state in an optimal way through the utilization of these rights from the river itself and from groundwater resources in the basin.
- 3) **Objective 3:** Support the regular collection of all hydrological and other water-related data.
- 4) **Objective 4:** Develop additional quantities of water from conventional and non-conventional water resources to Bridge the growing Gap between water supply and water demand.
- 5) **Objective 5:** Raise public awareness on water and wastewater issues and increase participation in water sector management, involving the people in the process of public participation processes and developing their understanding of their rights and role.
- 6) **Objective 6:** Improve water services provided to marginalized areas (suffering from poor service), including rural areas, remote villages and Beduin communities.
- 7) **Objective 7:** Develop and implement fair and progressive tariff systems with a view to facilitating access to the service by the poor and vulnerable groups and to ensuring cost recovery by utilities.
- 8) **Objective 8:** Encourage the involvement of water users' associations to ensure optimal management of shared water resources (including wells, springs and treated wastewater) used for economic purposes (irrigation, industry, tourism).
- 9) **Objective 9:** Support water service providers to reduce the quantity of non-revenue water in order to increase the availability of scarce resources to customers and improve their operational efficiency to progressively meet national targets.
- 10) **Objective 10:** Encourage working with relevant authorities and institutions on public awareness concerning the importance of wastewater

treatment and re-use, and the risk of health and environmental impacts of sewage.

- 11) **Objective 11:** Water needs for the whole ecosystem especially the Lower part of the Jordan River shall be made available.

6.2 Challenges

In order to achieve the aforementioned objectives, which formulate pivotal basis for socioeconomic development of the LPJR, considering the importance and rarity of water resources currently available to Palestinians, the following challenges must be surmounted:

- 1) Intensified restrictions imposed by the occupation on construction activities, especially in Area 'C'.
- 2) The existence of Israeli illegal settlements and their utilization of Palestinian land and resources.
- 3) Lack of enforcement of existing laws, by laws and regulations and updating of the legislation when necessary.
- 4) Inequitable distribution and Israeli control of West Bank water resources: The West Bank groundwater resources are controlled by the Israeli authorities, which abstract approximately 85% of its groundwater for its own purposes, including for the settlements on the West Bank. Meanwhile the Jordan River surface water resources are diverted fully by Israel and Jordan, without anything being allocated to the Palestinians. Releasing water quantities by Jordan and Israel forms an important challenge in this regard.
- 5) Israeli restrictions on Palestinian movement in West Bank including the Jordan Valley: Israel operates many military checkpoints throughout the West Bank for the Palestinians, which create obstacles for free transport of persons and equipment such as pumps, fuel and water supply equipment, particularly in the areas B and C.
- 6) Destruction of vital water infrastructure: Conflicts between Israel and Palestine in the West Bank have caused destruction and damages to existing Palestinian water infrastructure, including Palestinian wells and pipelines, and closing off water supply networks.
- 7) Lack of sufficient infrastructure. In those cases where the Palestinians have full control over their infrastructure, the Palestinian Water Authority is often faced by lack of local infrastructure development capacities due to the lack of funding, which slows down construction and repair works.

- 8) Lack of wastewater management. The wastewater collection and treatment facilities in the West Bank are not advanced. Only a small portion of the Palestinian wastewater is treated and reused.
- 9) Organization of Funds: Palestine depends largely on external international funding for its infrastructure investments. These funds are sometimes put on hold due to changing political positions by the donor organizations. Furthermore, these funds depend on particular donor development policies, which might deviate from Palestinian national policies. This all limits the Palestinian freedom in terms of money allocation and fund management.
- 10) Water losses: Many of the water supply systems in Palestine are old, and have high rates of un-accountant for water. This includes both physical water losses as well as water supply that is not paid for.
- 11) Information Shortage: There is a lack of appreciable time series data regarding many hydrological parameters in Palestine. This fact reduces the possibilities to fully understand the behavior and to manage the groundwater resources.
- 12) Lack of integrated Water Resources Management (IWRM) : the Palestinian Authority does not have adequate means and capacities to implement full IWRM principles, leading to sub-optimal management of the water resources. This is true due to the lack of full control over their water resources and the practices of the Israeli side on these resources. It is worth mentioning that PWA has already started to try to implemnt IWRM with referenced to Technical level, Adminstrative level and socio-economic level, and this was considered as one of the main goals of the on going reform program for the water sector.
- 13) Address Water Demand Management: Although PWA (through TPAT program) has developed actions plan and now formulating several regulations aiming at enhancing water demand management, the Palestinian Authority may not have the means and capacities to optimize water demand management principles, leading to relative unnecessary high water losses. This also includes addressing water pricing policies to steer water demands and manage water losses.

6.3 Rationale and Assumptions

Based on the above objectives and the overall objective of this Master Plan, a set of proposed interventions was prepared to fulfill the objectives, which matches the vision of this strategic area. The interventions were also based on a set of rationale and assumptions to estimate future water demands, available water resources and population

growth rates in addition to other assumptions. These rationale and assumptions are discussed below.

Human Water Demands: Water Demands in the study area have been divided into two categories according to data availability format. These categories are municipal and industrial water demands which includes in addition to domestic demand, public, commercial and industrial water demand and agricultural water demand.

Present Municipal Water Demands: Based on data available, the total supply for municipal and industrial purposes is 3.279 Mcm/year for a total population of 56,014. The water consumption rates are estimated based on the collected information regarding the Un-accounted-For-Water (UFW) ratio. Based on data collected from the main municipalities within the study area, values of UFW range from 28% to 41% with a weighted average value of 35%.

Population Growth Rates: It is assumed that by the year 2020 Palestine will become an independent state, which will imply that the Israeli settlements will be dismantled, and the Jordan Valley will become an area for urban Palestinian expansion. This means that in addition to the autonomous growth of the current population there will be an immigration leading to an estimated total population of approximately 500,000 in the LPJR by year 2050¹¹. The growth rates are assumed to decrease due to the expected socio-economic and cultural development. The proposed growth rates are:

2012-2015	3.5%
2015-2020	3.25%
2020-2030	3%
2030-2050	2.5%

It is therefore assumed that about 100,000 capita will be relocated within the study area between the year 2020 and 2030 and 175,000 capita between the year 2030 and 2050. Based on the above assumptions, the population estimates for the different clusters are presented in the Table 3 below for the different planning years.

¹¹ The growth rates were calculated according to the difference between population figures from census 2010 and census 2007.

Table 3: Population Projections for the Different Clusters

Cluster Name	Population 2010	Population 2015	Population 2020	Population 2030	Population 2050
Bardala	5259	5830	6841	18583	55451
Al-Nassariya	4564	5060	5937	16127	51427
Al-Jiftlik	6499	7205	8455	22965	62631
Fasayil	1157	1282	1505	4088	31699
Al-Auja	4423	4903	5754	15629	50610
Jericho	34112	37820	44379	120540	247520
Total	56014	62103	72873	197935	499340

Water Demand Projections: Water demand projections are computed not according to the current consumption rates but based on PWA strategy and international standards. It is assumed that by the year 2020 Palestine will become an independent state, which will imply that the Israeli settlements will be dismantled, and the Jordan Valley will become an area for urban Palestinian expansion. The estimated average water demand is assumed at 90 cubic meter per capita per year which is higher than most of the other areas in Palestine.

Finally, it should be mentioned that these consumption rates, although higher than most of the areas in Palestine, they are still way below Israeli water consumption rates that averages to some 300 l/c/day according to the last World Bank report in 2010 on water in the region. In addition these consumption rates do include public, commercial and industrial consumption which forms some 21% of the total Municipal and industrial water consumption. Given that, the actual domestic water consumption in the area is assumed to be around the WHO standards of 150 l/c/day proposed consumption for domestic uses if a 25% UFW rate is been considered.

6.4 Water Interventions

Based on the above objectives, rationale and assumptions, a set of proposed interventions was prepared to fulfill the objectives, overcome the challenges and matches the vision of this strategic area. The set of interventions for the water sector includes resources development, systems development, public awareness and other related administrative issues. These interventions are listed in the Table below. It should be emphasized that the assumption that Israel will release enough quantities from the upstream part of the river forms the main challenge to implement the proposed interventions. The table shows the name of the interventions, the estimated construction cost in Euros, the anticipated start and end date of construction and the targeted objectives from the above mentioned ones. More description of each alternative is shown in Annex 1 for all proposed interventions. From the table, the interventions focus on three main principles:

1. Develop the present insufficient infrastructure and resources.

During the last 50 years, the Israeli occupation had limited the development in ground water resources and prohibited Palestinians from developing any of their water rights in the Lower part of the Jordan River. For that, the present available resources for the Palestinians in the study area are much less than their water rights from the available resources. In addition, the occupation and lack of proper funding had prohibited the proper and sufficient development of water networks and distribution systems. Due to these facts, the present water services suffer from many problems including high unaccounted-for-water, insufficient maintenance, limited agricultural development and lack of proper management modules and practices. For that, there is a need to develop a set of interventions that will mitigate these deficiencies and provide the needed resources and infrastructure to bridge the gap between the existing conditions and the international standards.

2. Develop Resources and Infrastructure for Future Population.

The population of the study area is expected to increase not only due to natural growth but also due to the expected immigrants who would come to live in the Jordan Valley due to the expected economic growth in the area. This new population requires additional water resources to be developed mainly from the Lower part of the Jordan River and the needed infrastructure to convey and distribute the additional supply to demand areas. To cover these needs, infrastructure projects and water resources development project have been identified within the proposed interventions.

3. Support Economic Development and Activities

The study area forms a major part of the Jordan Valley which is considered the main agricultural land in Palestine. For that, any future economic development for the study area shall primarily rely on agriculture. Historically, water availability was the main constraint imposed by the occupation on the development of the agricultural sector. The lack of sufficient water resources prohibited farmers from expanding in irrigated areas. On the contrary, the size of the irrigated area dropped during the years of occupation. For that, it is crucial to develop enough quantities of water for agricultural sector through the rehabilitation of existing agricultural wells and the utilization of Palestinian water rights in the Lower part of the Jordan River and for that part of the proposed interventions intended to cover such gap.

Finally, it should be mentioned that part of the proposed interventions intend to respond to the present limitations and challenges to properly prepare the ground to meet any future water demands both for domestic uses or for economic development. This is clear in interventions related to:

1. Enforcement of existing laws, by-laws and regulations and updating of the legislation when necessary.
2. Utilize Palestinian water right in the Lower part of the Jordan River Basin to achieve a more equitable distribution of available water resources after releasing water from the upper part of the river.
3. Rehabilitation of destructed and deteriorated vital water infrastructure.
4. Reduction of Water losses.
5. Bridging the gap in available data and information Shortages.
6. Enhance the adaptation of IWRM and demand management principles and practices.

Summary of Water Management Interventions: The following table summarizes the water management interventions.

Table 4: Summary of Water Management Interventions

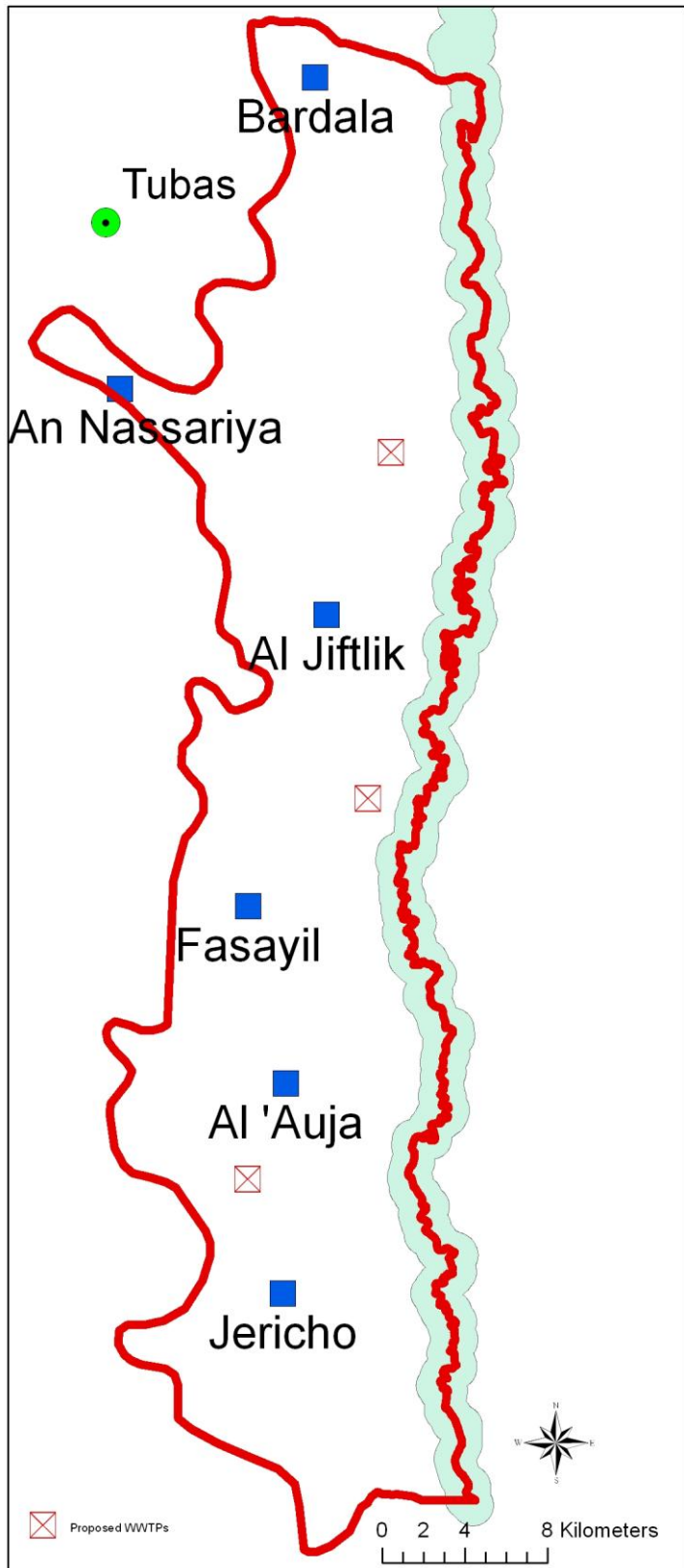
Intervention	Estimated Cost (\$)	Target Objectives	Anticipated Start and End Years
W1 – Wells Rehabilitation and drilling of new well in the Jordan valley	Preparation cost:\$250,000 Construction cost: \$2,200,000 Operation cost: \$860,000		2015-2018
W2 – Rehabilitation and Protection of Springs	Preparation cost: \$215,000 Construction cost: \$2,575,000 Operation cost: \$125,000		2016-2020
W3 – Rehabilitation and construction of Domestic water networks	Preparation cost: \$320,000 Construction cost: \$3,380,000 Operation cost: \$120,000		2015-2017
W4 – Desalination of Brackish wells	Preparation cost: \$50,000 Construction cost: \$700,000 Operation cost: \$40,000		2017-2019
W5 – Rehabilitation of Al-Qilt Spring group and the construction of a dam	Preparation cost: \$150,000 Construction cost: \$1,700,000 Operation cost: \$50,000		2018-2020
W6 – Development of Water and wastewater Tariff structures	Preparation cost: \$100,000 Construction cost: \$0 Operation cost: \$0		2017-2018
W7 – Development of a water conveyance system	Preparation cost: \$500,000 Construction cost: \$12,000,000 Operation cost: \$600,000		2026-2029
W8 – Water Quality Monitoring Program	Preparation cost: \$200,000 Construction cost: \$1,000,000 Operation cost: \$200,000		2021-2023
W10 – Artificial Recharge Scheme	Preparation cost: \$1,000,000 Construction cost: \$10,000,000 Operation cost: \$1,500,000		2025-2031
W11 – Construction of water networks	Preparation cost: \$1,250,000 Construction cost: \$30,000,000 Operation cost: \$1,000,000		2025-2035

W12 – Hydro-geological Assessment of the Study Areas	Preparation cost: \$250,000		2021-2023
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6.5 Cost Estimates

The estimated cost for the different water and agricultural projects are based on the following criteria:

1. All cost estimates are in 2014 Euro values.
2. For the water network conveyance system components, pipes, pumps and reservoirs, prices from PWA price list and prices in the Fixed Assets Manual of the Municipality Development and Lending Fund are adopted.
3. For water distribution networks, the network inside a community, the per capita cost is considered. This is taken based on the previously implemented or planned projects at PWA.
4. Some projects already have been considered by PWA and Ministry of Agriculture and do have some feasibility study. The costs in these feasibility studies are considered for these projects.
5. Cost estimates of capacity building and public awareness projects are based on the estimated level of effort multiplied by an average unit cost per man month.



7 Pollution Control and Environmental Management

7.1 Objectives

1. Ensure safe and healthy environment
2. Ensure that the major infrastructure elements related to the environment are constructed, upgraded, and well maintained
3. Ensure that wastewater is properly collected, treated, and reused or disposed off
4. Ensure that the solid waste is well managed in terms of collection and ultimate disposal with emphasis on waste utilization to the fullest
5. Ensure the protection of the environment as a receptor to the sustainable utilization of the existing systems
6. Development of management plans that integrates the entire environmental systems
7. Ensure a high level of public awareness and knowledge toward the existing environment and the proposed plans related to the safe utilization of the environment
8. Ensure a frequent monitoring of the environmental elements
9. Maintain an updated environmental database
10. Integrate all the relevant authorities in all the guidelines for the regulated use of the environment

7.2 Challenges

1. The environmental system and elements suffer from negligence due to the long occupation and accessibility restrictions
2. The absence of the basic infrastructure related to wastewater and solid waste
3. The protection of the environment is not receiving a great deal of consideration in the current practices (fertilization, wastewater disposal, solid waste dumping, etc.)
4. Lack of data and information related to the environmental elements which makes it difficult to develop impact assessment
5. Public awareness will be required among the residents regarding the existing environmental problems and the potential solutions
6. Lack of enforcement of the Palestinian environmental law in the area

7.3 Rationale and Assumptions

The very premise in the development of the interventions of the pollution and environment is the protection of the environment and the guarantee of a healthy status by both:

1. Targeting the potential sources of pollution (by either complete elimination or managing the sources by means of control)
2. Environmental management

This understanding is quite essential (along other drivers) in shaping up the suitable (effective and efficient) interventions that would practically and realistically address the abovementioned objectives considering concurrently the challenges.

A thorough consideration and thoughtful thinking have led to consider the following as the key pollution sources in the study area:

1. The untreated wastewater
2. The solid waste
3. Chemical and organic fertilizers
4. Agricultural waste
5. Jordan River

Each of the above sources can be controlled by considering the proper means for that as can be summarized by the following bullets and later by the interventions detailed description sheets:

1. For the wastewater:
 - a. Treatment of wastewater prior to disposal
 - b. Reuse of the treated wastewater
2. For the solid waste
 - a. Sorting
 - b. Recycling
 - c. Landfilling
3. For fertilizers
 - a. The right rates should be promoted considering a multitude of factors such as soil type, topography, plant uptake, fertilizer characteristics, hydrogeological formations, etc.
 - b. The right time of application must be well addressed
4. For the agricultural waste and analysis of the possibilities of turning certain agricultural remains into animal food must be considered
5. Jordan River in its current status is being affected mainly and chiefly by the Israeli anti-environment practices. This implies from one side the commitment from Israel to stop its current practices and from the other side rehabilitation of the Jordan River (the Ecology section will address this)

Quantitatively, the following tables summarize the projections for selected years (2015, 2020, 2030, and 2050) for population, wastewater generation, and solid waste amounts. Regarding the wastewater and solid waste amounts, the following are the key assumptions that lead to the summarized projections:

For the wastewater generation it was assumed that 80% of the consumed water would become wastewater. In addition, all the communities will be served by the wastewater collection networks and that there will be no use of cesspits for wastewater collection. For the solid waste generation, it was assumed that the annual rates of generation in the unit of kg/capita for the years 2015, 2020, 2030 and 2050 are 425, 450, 500, and 600; respectively. It was assumed as well that 35% of the generated solid waste are recyclable and will not be disposed off in the proposed new landfill for the study area.

Table 5: Summary of projections for the wastewater and solid waste for different years

Wastewater generation				
Cluster Name	2015	2020	2030	2050
	m ³ Wastewater	m ³ Wastewater	m ³ Wastewater	m ³ Wastewater
Bardala	399,744	469,056	1,697,024	4,519,616
Al-Nassariya	346,880	407,040	1,613,696	4,376,320
Al-Jiftlik	493,952	579,648	1,845,632	4,775,360
Fasayil	87,936	103,168	1,205,312	3,673,664
Al-Auja	336,192	394,496	1,596,800	4,347,200
Jericho	2,592,896	3,042,560	5,155,584	10,469,824
Total (m³)	4,257,600	4,995,968	13,114,048	32,161,984
Total (million m³)	4.3	5.0	13.1	32.2

Solid Waste				
Cluster Name	2015	2020	2030	2050
Bardala	2,654,550	3,298,050	13,258,000	42,371,400
Al-Nassariya	2,303,500	2,862,000	12,607,000	41,028,000
Al-Jiftlik	3,280,150	4,075,650	14,419,000	44,769,000
Fasayil	583,950	725,400	9,416,500	34,440,600
Al-Auja	2,232,525	2,773,800	12,475,000	40,755,000
Jericho	17,218,450	21,393,000	40,278,000	98,154,600
Total (kg)	28,273,125	35,127,900	102,453,500	301,518,600
Total (tons)	28,273	35,128	102,454	301,519
Total to landfill (tons)	18,378	22,833	66,595	195,987

7.4 Pollution Control and Environmental Management Interventions

The interventions related to the pollution and environment are summarized in the following table

7.4.1 Summary of the interventions related to the Pollution and Environment. The following table summarizes those interventions.

Table 6: Summary of the interventions related to the Pollution and Environment

Intervention	Estimated Cost (\$)	Target Objectives	Anticipated Start and End Years
P1 PAL – Solid and Hazardous Waste Management Plan and Construction activities for the Jordan Valley	Preparation costs: \$200,000	2, 4, 5, 6, and 7	Management Plan: 2016 – 2017 Landfill construction: 2020 – 2023
	Construction costs: \$30,000,000		
	Operation costs: \$150,000 /year		
P2 PAL – Environmental Management Project	Preparation costs: \$1,000,000	6, 7, 8, 9, and 10	2016 – 2018
P3 PAL – Wastewater collection and treatment	Preparation costs: € 1,800,000	1, 2, and 3	Collection: 2016 – 2020 Treatment: 2020 – 2025
	Construction costs: € 200,000,000		
P4 PAL – Assessment (and improvement) of the pilot fish farm in the Jericho area	Preparation costs: \$50,000 Construction costs: \$500,000	5 and 6	2016 – 2019
P5 PAL – Land and water quality protection project	Preparation costs: \$200,000	1 and 5	2016 - 2017

P6 PAL – Remediation of the Israeli settlements and military bases	Preparation costs: \$300,000	1 and 5	Preparation: 2020 – 2022
	Construction costs: \$10,000,000		Construction: 2022 - 2027
P7 PAL – Wastewater collection, treatment, and reuse Master Plan	Preparation costs: \$500,000	3	2016 - 2018
P8 PAL – Reuse of the treated wastewater	Preparation costs: \$500,000	3	Preparation: 2020 – 2021
	Construction costs: \$100,000,000		Construction: 2021 – 2026



8 Ecological restoration

8.1 Objectives

1. The improvement/preservation of the environment associated with the natural resources to achieve environmental and economic benefits
2. The restoration of the ecological situation within the lower part of Jordan River Basin with emphasis on the following:
 - a. Restore Jordan River into its historic flow rates. This implies consideration of the hydro-geomorphology of the study area at the watershed level
 - b. Restoration of the water quality of the Jordan River
 - c. Restoration of the flora and fauna of the river and its flood plain
 - d. Development of recreational areas associated with the Jordan River
3. Carry out integrated comprehensive surveys on flora and fauna with emphasis on endangered species. Additional elements to be surveyed include the regional vegetation communities, soil, geology, geomorphology, topography, etc.
4. Development of natural reservation areas
5. Set up measures that help in:
 - a. Evaluating the status of the eco-systems after proper monitoring
 - b. Protecting the eco-systems
 - c. Development the eco-systems

8.2 Challenges

1. Restoration of the Jordan River depends on all the countries that contribute to the river through the drainage system. This makes it difficult to arrive at successful coordinated actions
2. Israel is the key party that is responsible for the deterioration of the ecological system of the Jordan River due in part to the diversion of the natural water flow and the degradation of the water quality in the river
3. Lack of information regarding the spatial distribution of the existing flora and fauna
4. The importance of ecological restoration is not widely appreciated
5. Accessibility limitations and restrictions

8.3 Rationale and Assumptions

Needless to mention that the study area is quite rich of natural resources that can be considered from one side as an optimal arena for different aspects. The uniqueness of the area is not just limited to a single driver or a sole feature but rather to a multitude of that including (but not limited to):

1. Biodiversity (Flora and Fauna)
2. Topography
3. Climate
4. Water
5. Soil

This part of the study is highly linked to the other parts namely pollution sources, environment, water, and tourism.

Our understanding and realization of the study area in this regard considers the following facts:

1. The flora and fauna in the study area are spatially distributed and thus entail a great deal of geographic variability
2. There are threatened flora and fauna
3. The eco-systems undergo imbalance and suffer from many threats due chiefly to the Israeli activities
4. Grazing is an important activity in the study area

Based on the above, interventions are so important in this regard to address the status of the ecology of the study area. This will focus in general on:

1. The development of plans and alternatives for the preservation and protection of the nature in general with emphasis on the different flora and fauna existing in the study area
2. Survey of all the eco-features existing in the study area including but not limited to the following:
 - a. Flora
 - b. Fauna
 - c. Topographic features (soil, geology, elevations, etc.)
 - d. Habitats
 - e. Regional vegetation communities
 - f. Locations of significant species
 - g. Grazing lands
 - h. Forest parks
3. To develop natural reservation areas. This serves from the one side as a method of preserving species while on the other hand can be utilized as monitoring stations
4. To integrate with the above, it is essential to develop programs, guidelines, policies, plans, and alternatives for the protection of the entire eco-systems in the study area

8.4 Ecological Restoration Interventions

The first step in ecological restoration is to create a nature protection and management plan, which would make a detailed assessment of the nature and the ecological status in the study area. This will include spatially surveying all the flora and fauna in the study area with emphasis on the endangered and threatened species, developing plans and alternatives for the preservation and protection of the eco-systems, developing programs, guidelines, policies, plans, and alternatives for the protection of natural reserves, national parks, grazing lands and open park forests, and developing three natural reservation areas.

Once the nature protection and management plan is put into place, the first step for implementation is to undertake the restoration of the LJR with the overall aim of this intervention being to restore in co-operation with Jordan and Israel the good ecological status of the Lower part of the LJR Basin, and the role of the LJR as a strategic water conveyor (Green Infrastructure), and ecological reservoir, in line with

the recommendations of FoEME’s Environmental Flow Study, will depend on the gradual improvement of water quality, water supply and environmental flow into the river, and will include:

- (1) Restoration of ecological (flora, fauna) status of the river, based on environmental flows and good water quality;
- (2) Design and implementation of dedicated ecological restoration projects and eco-parks along the borders of the LJR;
- (3) Expansion of currently assigned nature reserves associated with the LJR, based on important flora, fauna and bird areas;
- (4) Design and develop dedicated river recreational areas for the urban population with picnic facilities.

The interventions related to the ecology are summarized in Table 7 below.

Table 7: Summary of the interventions related to the ecology

Intervention	Estimated Cost (\$)	Target Objectives	Anticipated starting and ending years
E1 PAL – Nature Protection and Management Plan	Preparation costs: \$500,000 Construction costs: \$5,000,000	1, 3, 4, and 5	1. The Survey: 2020 - 2021 2. Preservation plans: 2021 - 2022 3. To develop three natural reservation areas: 2022 – 2027 4. Monitoring: 2020 – open (highly connected with P2)
E2 PAL Jordan River Ecological Restoration Project	Planning costs: \$500,000 Construction costs: \$10,000,000	2	2020 – 2030

9 Tourism and Cultural Heritage Development

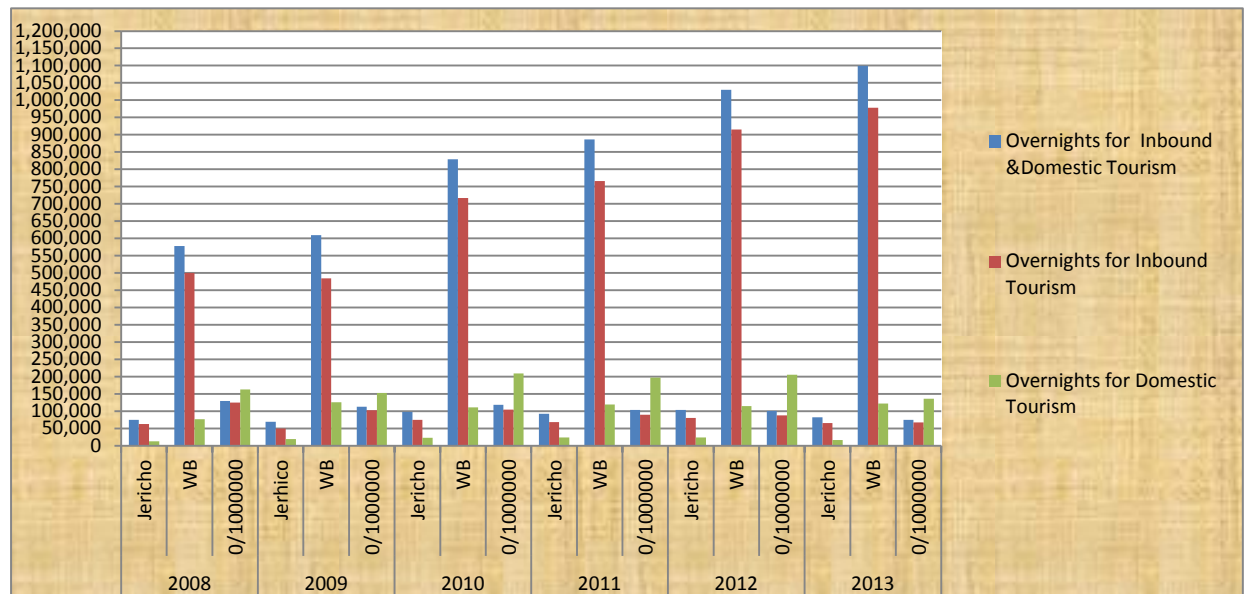
The general objectives of the master plan for the tourism sector are derived from the fact that a great potential in the LPJR and its surrounding that can provide authentic natural and cultural experiences for responsible tourism demands. Its unique natural and cultural history is not only a resource for tourism development. But it is also an important knowledge to understand and appreciate, for the preservation of its natural and cultural resources. Responsible tourism can play an important role to upgrade the level of awareness in the local, regional and international scales about the value of Jordan Valley in General and the LPJR in particular and even subsidize its conservation and protection measures. This is why the development of the JV including tourism should consider its vulnerability to intensive exploitation of its resources. There is no doubt that the competition between the sharing countries to

maximize their exploitation of its resources, if unchecked, will destroy its value and will create more regional conflicts that will make its conservation an international responsibility.

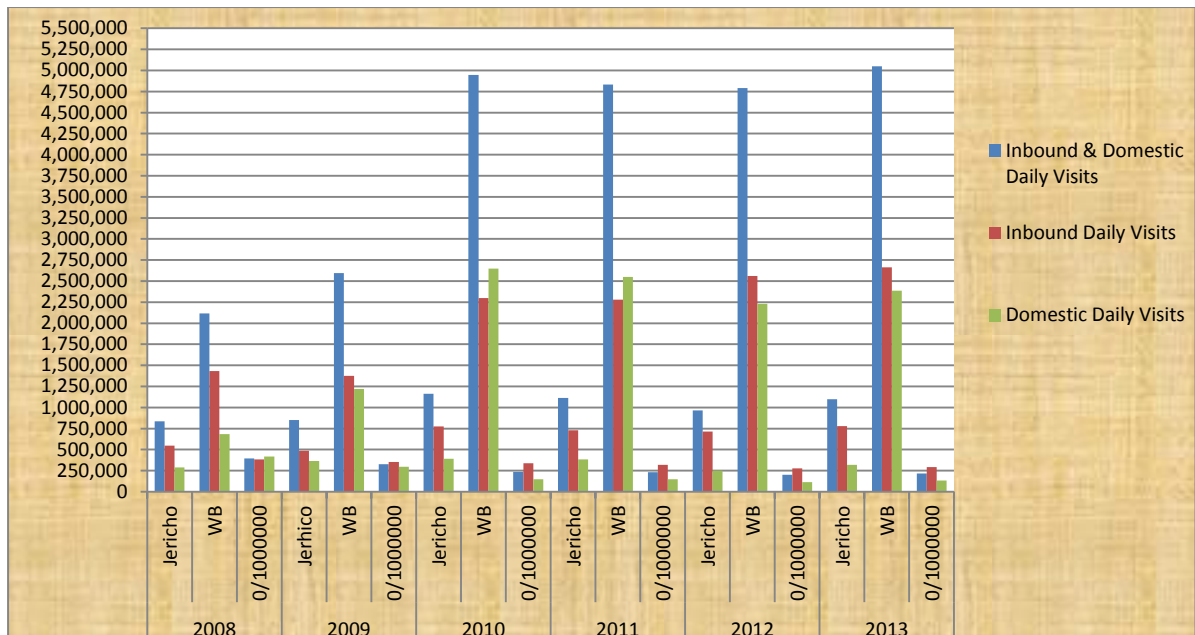
9.1 Current Situation

The following summary of data analysis is necessary to better understand the current situation and to illustrate the vision for the proposed plan for sustainable development. The current situation will be described in terms of tourism trends, tourism markets, tourism offer (attractions) and tourism services.

9.1.1 Tourism Trends



LJV (Jericho) Hotel overnights in comparison to WB



LJV (Jericho) daily visits in comparison to WB

The above two tables show the hotel overnights as well as the daily visits to the LJV which is exclusively the Jericho area. It mainly follows the general trend of tourism activities of the WB. The detailed statistics currently shows that Jericho ranks the third inbound overnights after Bethlehem and Ramallah; the second inbound daily visits after Bethlehem; the second domestic overnights after Ramallah; and fourth domestic daily visits after Jenin, Nablus, Qalqilya and Toulkarem.

Although a great amount of inbound tourists drives on road 90 from Nazareth or Tyberea to go to Jericho or the Dead Sea, the tourism activities in the area of Toubas shows very small numbers that can be neglected (18 youth center overnights and less than 300 daily visits are recorded in the governorate of Toubas which is in part, the city of Toubas where the numbers came from, is out of study area).

Although the tourism industry experienced many obstacles during the last two decades, the tourism statistics of the WB showed a continuous increase in daily visits and hotel overnights over the last six years (2013). The LJV, exclusively Jericho, experienced the same general increase with some variations related to its specific tourism offer and its market demand. This increase can be explained according to the following reasons:

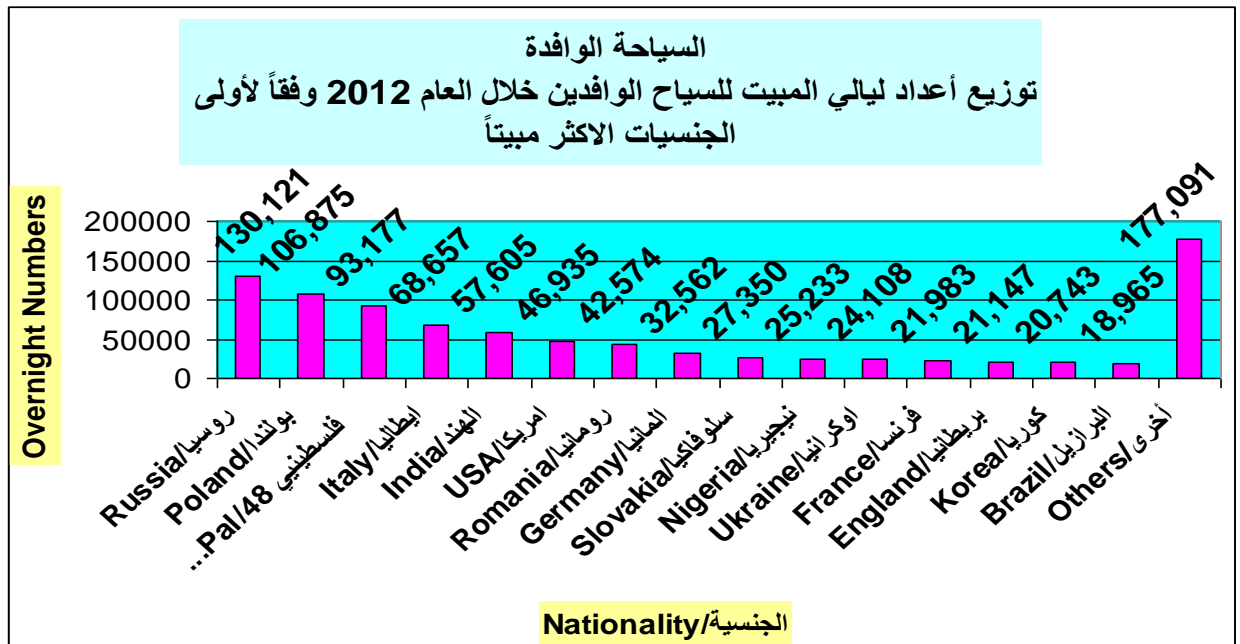
1. Healing Process: Close to one million inbound daily visits were received in the WB and Gaza during the year just before the reoccupation of the WB (second Intifada: 2000-2005). A peak that was never reached before and grew during promotion and marketing efforts practiced since the establishment of the Palestinian Authority as well as the Bethlehem2000 Projects. A severe drop followed and hardly reached 100,000 daily visits during the worst year of that period. Christian Pilgrims were queuing and

the healing process went fast to reach over 1.4 million inbound daily visits and over half a million hotel overnights during the year 2008. The LJV, exclusively Jericho received 546,814 inbound daily visits (39% of WB) and 62,510 inbound hotel overnights (13% of WB) during that year.

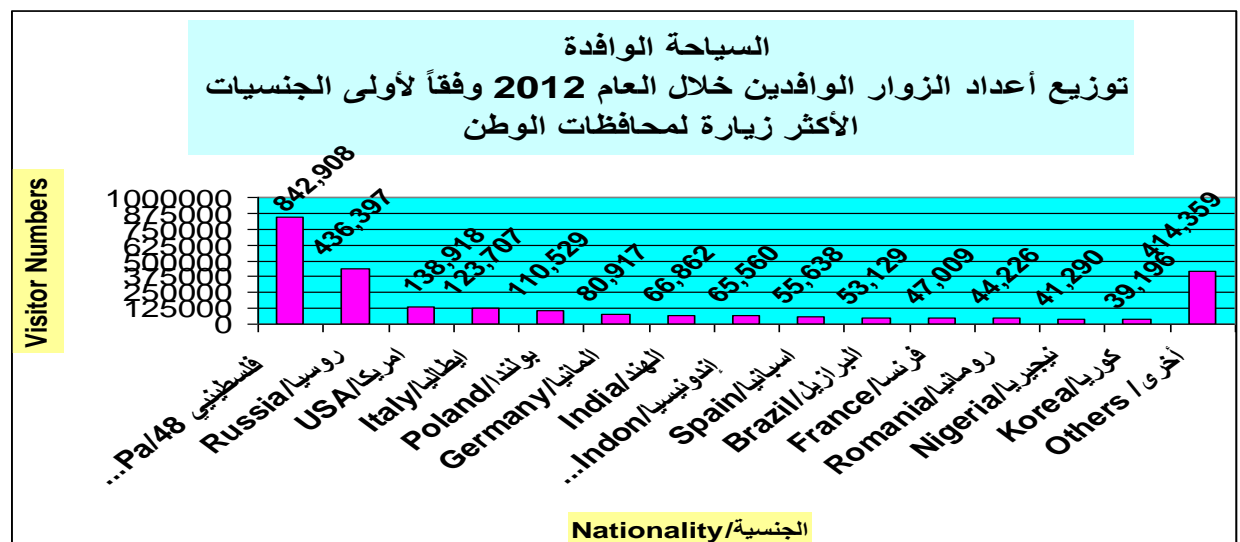
2. **VISA to Israel:** The Israeli measure to cancel the VISA requirement for Eastern Europe and Russia was an opportunity to the Palestinian tour operators to expand their market especially in Russia and Poland. The two countries became the leading Palestinian markets next to the Palestinians from Israel. The LJV, exclusively Jericho was an available destination for tour operators and played an important role to quickly reach its hotel overnights leverage since the beginning of the year 2008. On the other hand, it was the launching alert for investors to increase the hotel capacity all over the WB.
3. **Accessibility:** A gradual accessibility to the cities and towns of Palestine except Gaza were reached during the years 2010-2011. This was promoted politically through many presidential and VIP visits to Bethlehem as well as in all promotion and marketing activities on the national level conducted by the public and the private sector. Both domestic and inbound tourism flourished and made a big jump during the year 2010. Interestingly enough, the LJV, exclusively Jericho started to receive less domestic daily visits after its peak in 2009 as other cities like Nablus, Hebron became accessible to visitors. On the contrary Jericho started to receive the highest domestic hotel overnights as seen during the years 2010, 2011 and 2012 (around 20% of the WB).
4. **Hotel Capacity:** The private sector realized the demand for accommodation and was able to treble the number of rooms from 2008 till present especially in Bethlehem and Ramallah. In spite of the fact that the hotel capacity grew that fast, Occupancy rates remained far above the hotel brake even occupancy rates. Their continuous success in hotel businesses is due to the fact that Palestine hotel capacity is still far below the demand in comparison with Israel and Jordan. It is also due to the fact that Palestine hotels are competent having a vantage point in respect to faith and cultural tourism markets. The LJV has less progress in this respect. It actually lost some of its hotel overnights to Bethlehem area due to internal price competition. Nevertheless, recent information shows that Jericho had just started to increase its hotel capacity through the years 2013-2014. It is important to note here that daily visits, except for ferry groups, are mainly groups organized by Israeli tour operators while overnights are totally groups organized by Palestinian tour operators from both Jerusalem and the WB (mainly from Bethlehem).
5. **Recently Accessible Destination:** A general reason behind this rapid increase in tourism activities is the fact that most of the Palestinian sites became attractive new destinations as they became recently accessible destinations for many markets including the faith tourism markets.

6. Catch up with tourism ratios in other destination in the Middle East: The rapid growth of tourism industry is not surprising for a destination that was and still sold by other neighboring countries as an optional destination in daily or short overnight visits considering the fact that it is rich in major important sites and attractions for more than one kind of tourism. The gradual developed capacities of the Palestinian tourism industry and the tour operators in specific were able to gain part of Palestine natural share in the tourism trade In the Middle East.

Tourism Markets Verses Tourism Offer



(After MOTA): Distribution of Overnights Number by Top Nationalities More Stay During 2012.



(After MOTA): Distribution of more visiting inbounds by Top Nationality during 2012.

The above two tables show the distribution of the most hotel overnights spent and the most daily visits made by 14/15 countries. It is only recent to have Russia and Poland on the top of the list of countries visiting Palestine. It is also recent to realize the importance of the Palestinian tourists from Israel who are leading the daily visits as well as being the third top overnights. This distribution can be understood in the following terms:

1. Faith Tourism: The large amount of inbound tourism in Palestine (over 60% of inbound daily visits and over 90% of inbound overnights) is faith based tourism (Christian Pilgrims). They come from all the above mentioned countries and others that did not make the top 15. Their main visited sites are Bethlehem, Jerusalem, Nazareth and Jericho. A small market that is recently emerging is Islamic pilgrims. They do the same sites as they believe in all religions. They come from different countries like Indonesia, Turkey, Great Britain and others. Their numbers are to be considered as a promising market. Groups were received from countries that were not thought of like Morocco. In all cases, the LJV exclusively Jericho had been one of the visited sites for its important religious attractions (Baptism site (still closed by military orders most of the year), Mount of Temptation, and many other historic churches. Nabi Moussa is the same for Muslim Pilgrims).
2. Leisure Tourism: The Palestinians from Israel visit Palestine in a considerable daily visits as well as overnights are recorded. They made the top most daily visitors and made the third most overnights. In addition to domestic tourism, the Palestinians from Israel come for family visits, for a brake, and for shopping attracted by resorts, cable car, parks, restaurants as well as religious and cultural heritage sites. The infrastructure in the LJV, exclusively in Jericho is convenient for leisure tourism especially during the warm winter and surprisingly abundant during the hot summer. Hotel resorts, parks, large capacity restaurants are numerous for being a service and an attraction for all kinds of tourism especially for domestic tourism as mentioned above.
3. Experiential Tourism: Tourist coming from USA, Germany, France, Korea and some other like Britain and Norway who did not make it to the top 15, created a growing demand for Palestinian tourism that is seeking more cultural tourism. A growing product mainly developed and managed by NEPTO member organizations as niche markets like rural tourism, hiking, biking, even solidarity tourism are all characterized by more cultural experience with Palestinian different aspects of life. In the LJV, Wadi Quilt and gradually Wadi Ouja are the main targeted attractions for experiential tourism and still with little community based experience in the LJV area.
4. Cultural and Natural Heritage Tourism: All the above tourism demands are combined with some visits to archaeological sites, historic towns, historic features as well as cultural and natural landscape. Although cultural and natural heritage is not the core of those visits but surely it is the context that made the since of any tourism experience. In the LJV, two significant

archaeological sites are open for organized tourism visits located in Jericho. Ancient Jericho (Tel Essultan) is a main inbound tourism destination for being known as the oldest city in the world. Hisham's Palace (Khirbet Al Mafjar) is a main domestic tourism destination for being known as an important desert palace during the Omayyad Islamic period and holds the largest intact mosaic in the Middle East. The story of the Rift Valley, the Dead see and Wadi Quilt, are the natural and cultural landscape that are focused on being demanded by almost all tourism visits.

9.1.2 Tourism Services

A wide range of tourism services were investigated in the context of tourism industry in Palestine as well as the region. The description of current situation below, Table 8, is limited to three tourism services that are most relevant and effective to upgrade the tourism industry in the LJV. The hotel capacity, the big capacity restaurants and tourism mobility:

Table 8: Hotel Capacity in the LJV, 2013

Hotel Name	Classification	No. of Rooms	No. of Beds	Location	Comments
City of the Moon	1 star	30	74	Jericho	Youth and sport Activities
Jerusalem	1 star	20	61	Jericho	Does not function continuously
Jericho Resort	4 stars	104	254	Jericho	Adding 40 rooms
Intercontinental Jericho	5 stars	181	362	Jericho	Changed to local ownership
Sami	Pension	20	54	Jericho	Management obstacles
Tel Freek	NA	NA	NA	Jericho	Planed
Jericho Paradise	NA	40	40	Jericho	Under Construction
Roman Pilgrims	Guest house	58	100	Jericho	Church Residence
Badran	Guest house	NA	NA	Jericho	Management obstacles
Water and Environment Development Society	Guest house	6	42	Ouja	Experiential tourism and Youth Activities
Abu Jihad Center	Guest house	NA	NA	Toubas	Youth Activities
Total		459	987		

1. Hotels: In spite of the great demand in leisure and pilgrims tourism, the hotel capacity in the LJV is still making a cautious and a careful growth. Two hotels were built in the late 1990's considerably raised the hotel capacity in Jericho. And the Ouja guest house became a good indicator for a successful experiential tourism based accommodation:
 - a. The Jericho Resort (4 stars, 104 rooms with the capacity of 254 beds), made a continuous success even in the hot season of the JV as well as during the reoccupation of the WB during the second intifada period. Its success was marked by its capacity to accommodate large groups in comparison with the preexisting hotels; by its design to accommodate and fulfill family needs; by its capacity to accommodate workshops and families all packaged in a 4 stars service and price.
 - b. The Intercontinental Jericho (5 stars, 181 rooms with the capacity of 362 beds) which had difficulties to have enough 5 stars hotel clients. It had a great success in the first few years being adjacent to the Casino until Israelis denied access by military closures of the area which caused the closure of the Casino and the suffering of the Intercontinental Hotel. The second important reason is the fact that a 5 stars hotel (this is also true for Intercontinental Bethlehem) did not meet with the Pilgrims market tradition and price. Pilgrims traditional market is acquainted with 3-4 stars hotels and afforded prices that did not reach the 5 stars costs. A third reason is the nature of tourism complimentary services in Jericho that still lacks convenient daily activities that could encourage tourists other than the current to spend more time in the city and the JV as well.
 - c. The Ouja Guest House: The emerging demand and growth of experiential tourism as explained above required a countryside accommodation that could serve nature explorers like hikers, community and culture based tourists, and youth activities. Both homestay and guest houses in marginal and rural areas start to flourish in the last few years. The Ouja Guest House proved to be a successful development of this sector. Numbers of guests went far above the initial expectations. In such a marginal area this guest house was able to serve hikers coming down the Ouja valley, local and international youth activities, community approach workshops of the region as well as small scale conferences and workshops related to the region.
2. Big Capacity Restaurants: Jericho city experienced a long history of daily visits from family and individual tourists (FIT's) as well as medium and large groups (20-50). Numerous shops and restaurants are able to fulfill this demand and provide traditional food and beverage in respect to the different needs. The most prominent investment is in restaurants that have the ability to receive medium and large groups and fulfill the tour program in terms of snacks, main meals, tea or coffee stop breaks as well as souvenir shopping. Several restaurants of this kind are successful and demonstrate a long history of annual contracts with the tour operators to provide such a needed service. A close care to the tourist experience in those restaurants is needed as they are becoming an important window to

the nature and culture of Palestine. They also play an important role in the group tourism trail in terms of program and pricing.

3. **Tourism mobility:** The general problem to access Palestine due to occupation measures is not discussed here. The mobility in Jericho city is adequate in terms of the current flow of tourists except during wintertime being the high season for daily visits. Parking near main attractions and sites especially around Ancient Jericho is confronting difficulties and needs improvement. Transportation between sites may not be feasible but it is an obstacle for tourists who are expecting to find regular public transport to use. Updated urban plans might be needed and the tourism mobility for groups and FIT's had to be assisted.

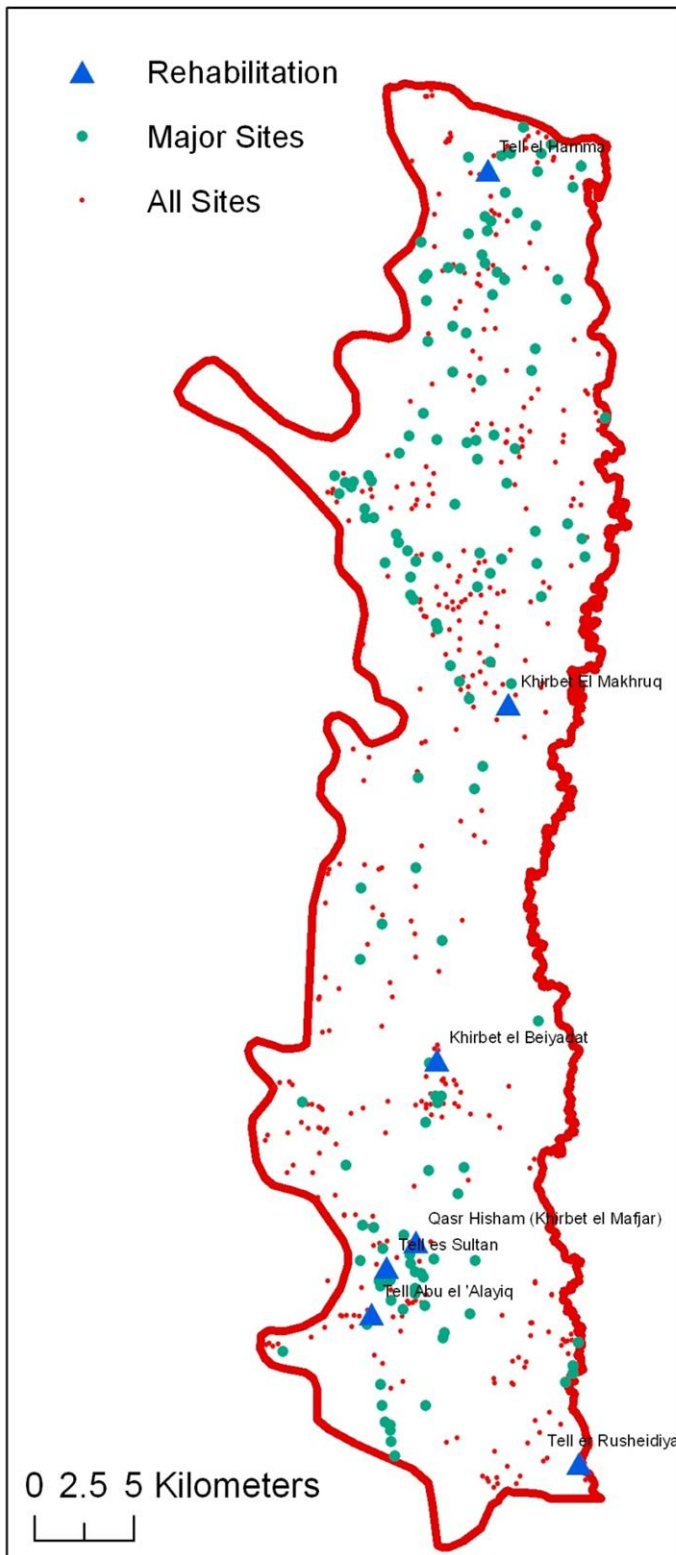
9.1.3 Cultural Heritage Sites

The defined area of the LJV contains 587 Cultural Heritage Sites identified according to the data base available in the records of Ministry of Tourism and Antiquities/ The Directorate of Cultural Heritage and Archaeology (MOTA/DACH). This record was established after a major field inspection conducted in the West Bank and Gaza for three years of field surveys just before the year 2000. This record was also established through the study of all available records of previous surveys, excavations and research in the area that was conducted in the last two centuries in Palestine.

9.1.3.1 Geographic Distribution

The identified sites in the defined area of the LJV are generally distributed around water sources and at the extensions of the main valleys coming from the western hills. There are about 343 sites within the governorate of Jericho. And about 213 are within the district of Toubas. The rest of the sites (around 30 sites) are within Nablus and Ramallah governorates that are sharing very small region of the LJV with both Jericho and Toubas.

The well-known sites to researchers in archaeology as well as the open sites for visitors are located in the Jericho region in the southern part of the LJV. It is just the circumstantial factors that lead to have more knowledge of the history and the archaeology of the Jericho area. Toubas area in the north still not discovered and evidences shows a great potential to uncover important sites that will contribute to the cultural and natural history of the LJV.



Distribution of Archaeological Sites (587 sites, of which 149 are major sites and 7 of those sites, were selected sites for Rehabilitation)

9.1.4 Legal Status

All archaeological sites and features are protected by the Antiquity Law: The Law of Old Remains (No. 51), 1966. This antiquity law published in 1966 during the Jordanian time is still the applied law in Palestine.

Article 2 defines cultural heritage resources (old remains or old “traces”) as follows:

- a. *Any historic remain (trace), movable or immovable, erected, formulated, or inscribed or constructed, or discovered or produced or modified by a human being before 1700 AD including any additional part added to that remain or reconstructed after that date.*
- b. *Human and animal remains that belong to the period before 600 AD.*
- c. *Any structure built after 1700 AD, which is declared by the Minister as an old remain.*

Article 10 explains the protection measures on those old remains as follows: With no permit from the **director antiquities, no one whether a person or an entity is allowed to:**

- a. *Excavate any archaeological site mentioned in the published list or mentioned in any additional or amendments to that list.*
- b. *Conduct excavation operations, or building erection, or plant trees, or open quarries, or irrigation operations, or lime burning (i.e. production), or any similar activities in the archaeological sites or in its neighborhood, or dumb soil or garbage, create cemeteries.*
- c. *Sabotage any archaeological sites or destroy and part of it or move it.*
- d. *Introduce any changes to any archaeological site or to add to it or restore it.*
- e. *Erect any buildings or walls that intrude it or adjacent to it.*

The rest of the Antiquity Law articles are mainly considering the protection measures of the archaeological sites as defined above. Although it has a strong protection measure, the Ministry of Tourism and Antiquities tried to introduce an up to date legal framework that can protect, manage and enhance the cultural heritage resources. The following are some of the reasons and objectives that were justifying the introduction of a new cultural heritage law and necessary to understand in the development of those cultural heritage resources in the LJV:

- a. The current definition of old remains does not comply with the contemporary definition of cultural and natural heritage resources. It does not encourage declaring cultural natural heritage resources for their historic, cultural, and educational and even esthetic values.
- b. The current law does not integrate or regulate the cultural heritage with planning and urban planning practices.
- c. The current law does not protect cultural heritage resources in respect of their typology, priority and importance.
- d. The current law does not integrate cultural heritage resources with their natural context.

- e. The current law does not consider the management of open sites for visitors.
- f. The current law does not allow flexibility as well as does not provide guidance for site developments and the enhancement of the business environment around it.

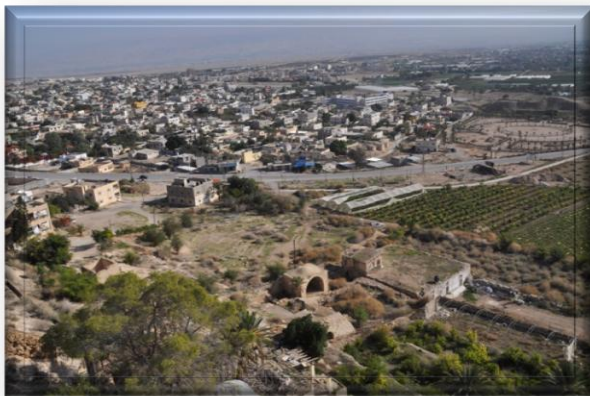
9.1.5 Site rehabilitation selection

Based on this wide range of data available on archaeological sites, the selection criteria for site rehabilitation should take into consideration the nature and the reliability of the available information about the sites, both natural and cultural importance of the LJV in the context of other sites in the region and the Destination Approach described below. Those considerations can be described in the following terms:

1. The available data can be described as comprehensive being based on continuous field related research that went over the more than two centuries.
2. More discoveries have to be anticipated especially for archaeological remains below ground surface. This is basically true for prehistoric sites and important to be anticipated in any plans for construction work like roads, housing projects or industrial areas.
3. Excavated sites are presenting part of the cultural history of the Jordan Valley based on a biased selection or hazard discoveries. There is more to uncover and more stories to tell about culture especially in the northern part of the LJV.
4. The different methodologies and approaches in data collection through those two centuries created different site typologies with terminologies that are not well defined. This issue was not completely solved through data assimilation by MOTAS/DACH and could create false results in the data analysis without close knowledge of the field.
5. A site can be a landscape that includes major sites and/or features and can be one of each as the data shows.
6. Data Analysis should take into consideration the above data collection methodologies and have site specific knowledge to help understanding the data.
7. The site selection should take into consideration its richness of a variety of attractions in terms of natural landscape, history, culture as well as its economic impact on the immediate community. More will be described below in the Destination Approach section.
8. The site selection should take into consideration the importance and vulnerability of the JV and should therefore prioritize protection and conservation against aggressive development.
9. Site selection should consider a natural and cultural heritage management vision from site specific to regional.

9.2 Objectives

The general objectives of the master plan for the tourism sector are derived from the fact that a great potential in the JV and its surrounding that can provide authentic natural and cultural experiences for responsible tourism demands. Its unique natural and cultural history is not only a resource for tourism development. But it is also an important knowledge to understand and appreciate, for the preservation of its natural and cultural resources. Responsible tourism can play an important role to upgrade the level of awareness in the local, regional and international scales about the value of JV and even subsidize its conservation and protection measures. This is why the development of the JV including tourism should consider its vulnerability to intensive exploitation of its resources. There is no doubt that the competition between the sharing countries to maximize their exploitation of its resources will be destroying its value and will create more regional conflicts that will make the conservation of the JV an international responsibility.



Jericho: The Complex combinations of natural landscape, archaeological sites, farm fields and urban growth requires an adequate and influential management for the conservation of both natural and cultural history of the valley.

Objective 1: To provide a sustainable management for an integrated natural-cultural

Heritage and tourism development plan. The first priority is to develop a conservation management plan for natural and cultural heritage resources in the LJV. This conservation and management plan should lead to a sustainable management institution for monitoring the implementation of this plan and the protection of the JV. A window for cooperation with other equivalent institutions in the other countries who share the JV should be opened for common issues relevant to the management of the JV.



Tel Abu el 'Alayek: One of the excavated sites and most ready for site presentation and rehabilitation plan.

Tel es-Sultan, Ancient Jericho: The most known Palestinian archaeological site in the world.

Objective 2: To facilitate the creation and the growth of the tourism business environment. The creation of business opportunities for the tourism industry is a multi-dimensional activity that can be initiated by public funds for vision and planning, access, infrastructure, public services as well as incentives for investment. There are some major projects like attractions that can be initiated with public and private initiatives like museums and archaeological site development. Those major attractions will enable small businesses to grow around them.



Jericho: Hisham's Palace site museum: An Important interpretation tool for the site.



Tel es-Sultan: The audiovisual room: An important interpretation tool for the site

Objective 3: To upgrade visitor experience: Understanding and enjoying the natural and cultural history of the Jordan valley. A great amount of research about the JV exists about its formation, natural and cultural history, contemporary life and others. There is more to research in order to better understand the JV, but it is important to pass knowledge with the necessary and adequate communication methods like site presentation, museums, guiding and so on.



Objective 4: To upgrade visitor experience: Appreciating and enjoying the tourism hospitality. Upgrading the accommodation capacity, food and beverage, transportation, guiding, banking, communications, health services, as well as cultural exchange forums like festivals are of most importance to be provided in the right distance from the tourist trail.



Objective 5: To promote the Jordan Valley as a unique destination in Palestine. “One valley-three countries” can make the Jordan valley a unique destination with an interesting experience in the three countries. This promotion campaign cannot be

neglected in the near future. Nevertheless it is still the tourism industry will to promote the JV and the Dead Sea as a destination in the context of the national tourism promotion of Palestine. The two directions will cause no contradiction as they will only create more access to different markets. In addition to the traditional tourism fairs and exhibitions and familiarization trips, using information and communication technology is proving to be an effective access to any destination.



9.3 Challenges

The below mentioned challenges are tourism specific ones. Other challenges related to political solution obstacles mentioned before will apply.

1. Lack of enforcement and updating existing laws, by laws and regulations.
2. Lack of urban planning especially with tourism development vision.
3. Lack of archaeological research in the northern part.
4. Lack of natural and cultural heritage management.
5. Lack of tourism product development and local tourism management.
6. Lack of sufficient infrastructure.
7. Lack of fund management capacities.
8. The main focus of industry is in faith tourism.
9. Tourism seasonality especially in hot summer.
10. Israeli restrictions on Palestinian movement in West Bank including the Lower Jordan Valley.
11. Lack of care and protection of archaeological sites during the long period of occupation especially in area C.

9.4 Rationale and Assumptions

1. Jordan Valley is a destination

- a. To strengthen the capacity of the JV as a one day visit: The demand for daily visits from domestic tourism, Palestinians from Israel, Jordanians in better traveling constrains and inbound tourism (including shared packages with Israel and Jordan) are expected to increase. It will also increase as a result of increasing and diversification of the tourism attractions. Reaching 2.5-3.0 million daily visits per year throughout to 2050 appears to be a conservative number.
- b. To extend the capacity of Jericho as a Weekend Destination: The demand for overnights will also increase for the above mentioned reasons. Short term tourism even long weekends from Europe seems to appear feasible in respect to the economic flights that are becoming available and the attractive warm weather during winter. The additional capacity in the northern part of the LJV will authentically and economically compete with the accommodation in Tiberia and provide an option for tour operators to have a stop in the JV in place of the long trip to the Dead Sea or back to Jerusalem or the upper part of the WB. Adding 1550

rooms is a faster growth than the daily visits but rational in respect to the new targeted markets.

- c. To create the capacity of the northern part of the Jordan valley as a weekend destination: A gradual growth hotel capacity will appear in the northern part of the LJV along with the development of the destination (museum, major archaeological site and the mud brick village)
2. **Jordan Valley is a portal for all destinations in Palestine, Jordan and Israel** (7-10-15 days destination)
- a. The JV has a vantage point to access all destinations in the region including the Dead Sea (short time, easy trip and joyful landscape). The development of the tourism attractions and services including the Airport (all proposed locations are in close distance to the JV), all those will encourage tour operators to plan their trails from the JV. Road connections to the Palestinian cities, to Israel main attractions, and to Jordan are shortening the travelling distances necessary for the tours.
 - b. The JV has a vantage point to access all pilgrimage sites (short time, easy trip and joyful landscape): The above facts are also true for pilgrimage tourism trails.

9.5 Tourism and Cultural Heritage Interventions

9.5.1 Destination Concept Approach

The Destination Concept Approach is a methodology to conduct a competitive and sustainable tourism development for understanding destination potentials versus market demands in order to realize needs and identify effective interventions. It is important to examine the destination potentials in the macro and micro scale. That's to say Palestine as a destination in the Middle East, the LJV as a destination in Palestine, Jericho as a main destination in the LJV and so forth until the site specific destination like Ancient Jericho, Hisham's Palace, Mount of Temptation or even Wadi Quilt.

The "Destination Concept Approach is a methodology to reach effective and strong impact interventions in upgrading the visitor experience and building the environment for more business and job opportunities. Based on potential attractions and market demand, the Destination Concept Approach also helps to identify, prioritize and select interventions that are most relevant to the required visitor experiences, needs and services expected by tourists or tour operators in the duration of visiting the destination. The targeted experience(s) is the potential options that the visitors could have in defined visit duration(s) for the destination through which; the most effective relative interventions are selected to fulfill the needs of this visit duration(s)".

Following the Destination Concept logic and to create development mechanisms of competitiveness abilities within the tourism industry, it is important to build a vision based on the main elements of the tourism industry. The harmony and the complementary development steps should be taken into consideration between the

following four elements of the tourism industry (Management, Product Development, Service Development as well as Marketing and Promotion):



Destination Concept Approach to Create Development Mechanisms of Competitiveness Abilities

9.5.2 Management

Strategic planning, specific destination planning, national management, site specific management as well as legal frameworks are the initial and the core issues that should be built on an understanding between the public and the private sector. It is important to note that governmental as well as local and international nongovernmental organizations have an important role in the tourism development in Palestine. In spite of the fact that there is no national tourism board established, the Ministry of Tourism and Antiquities (MOTA), Arab Hotel Association (AHA), the Holy Land Incoming Tour Operators Association (HILTOA), The Arab Tourist Guide Union (ATGU) as well as the Network of Experiential Tourism Organizations (NEPTO) conduct irregular consultation and coordination meetings from which some major guidelines are established. It is important to mention the relevant ones related to our development plans in the LJV:

1. Pilgrimage tourism is the main stream of tourism and should be integrated with cultural and natural experience to upgrade the tourism experience.
2. The necessity to have more overnights in the Palestinian cities and towns to raise the benefit of the tourism in general in contrast with the daily visits that are exhausting the resources with little benefit to the Palestinian economy.
3. The necessity to diversify the tourism product to attract more markets and fulfill additional demands. Experiential tourism and other niche markets based on community cultural experience, nature experience as well as food and beverage experience are the most promising demands that can be fulfilled in Palestine for the right markets and will enable using the available tourism infra-structure in the pilgrimage low seasons.
4. The necessity to sell Palestine as a destination, sell the cities and sites in Palestine as destinations, but also integrate tourism programs with the Middle East tourism trends that will provide more access to the global market and makes more sense to many tourists especially the ones that are coming from long distances. This obviously makes the JV a destination of its own as well as part of Palestine as a destination.
5. The necessity to establish a continuous link between local tourism product (development and management) and the tourism industry on the national level. Many efforts and initiatives were made towards establishing local Heritage and tourism Committees at the level of governments that could play the role of this continuous link to monitor, coordinate and update the day to day needs and expectations of the tourism industry and vice versa.

One proposed intervention that is essential to the LJV development is the Integrated Management plan for Cultural and Natural Heritage resources. This intervention should build the capacity for the sustainable management of both cultural and natural heritage resources. The nature of the management structure should first be in consistency with the Palestinian existing management structures in other areas and providing technical duties to serve both natural and cultural heritage resources. And secondly should be able to build regional and international coordination in order ease the conservation and the development of the LJV resources.

Intervention: Planning, Management and Dissemination

No.	Proposed Projects (Management and planning)	Estimated Costs (MUSD)	Anticipated Dates	Targeted Objectives
T01	Cultural Heritage Protection and Management Plan	2	2015-2018	1

9.5.3 Product Development

The uniqueness of the JV and its multi-dimension stories has the potential to be an important destination for the demands explained above, faith tourism, cultural and natural heritage tourism, experiential tourism as well as leisure tourism. In addition of it religious sites, the following list of potential themes worth investigating being the character of the JV:

1. Geology and Morphology of the Rift Valley (25-30 million years ago).
2. History of the Salt Industry in Northern shore of the Dead Sea.
3. Sugar Industry (Sugar Mills).
4. History of Water and irrigation management.
5. Settlement Patterns in the Jordan Valley (Archaeological chronology and religious sites).
6. Land Use Patterns.
7. Hot Springs (Spa).
8. Hiking Trails on the western slopes west of the Jordan Valley.
9. Mud brick Architecture.
10. Panoramas of the Jordan Valley.

It is not by hazard that all the known important sites are located in the surrounding of Jericho in the southern part of the study area. Nevertheless, those themes can be represented by a wide range of attractive sites and locations in many parts of the LJV. Almost all developed sites are located in the Jericho area. To balance the regional development in the area and to follow its historic importance, four development clusters can be chosen that are also located at the bottom of remarkable valleys that are rich in many natural springs, historic and archaeological sites, traditional agriculture:

1. Wadi Quilt and the Jericho area.
2. Wadi Ouja and the Ouja area.
3. Wadi Jiftlick and Jiftlick area.
4. And the eastern part of Toubas in Kardal, Bardala and Ein Beida Area (KB&EB)

In order to make an efficient change in the Toubas District at the north of the LJV, a major attraction should be established. This location contains important archaeological sites from which we can present another major site like Ancient Jericho. The district can also be chosen to have the great museum of the Rift Valley that would become a destination of its own for being the portal of the JV.

Two types of intervention for product development are found to be important for tourism development. One is rehabilitation of Cultural Heritage and Archaeological sites which is considered as a major tourism attraction for inbound tourism; while the other is all other types of attractions that are mainly serving local tourism and are an asset to develop inbound tourism.

The specific selection of those sites took into consideration the Destination Approach explained above as well as the chronological history of the JV. Its main objective is to use the existing potential of the wide range of sites upgrade the existing open sites (Jericho area) and to create an equivalent destination in the north (Bardala, Kardala and Ein Beida) as well as a moderate destination in the middle areas (Ouja and Jiftlick), Table 8.

Table 8: Interventions, Tourism Product Development (Cultural Heritage and Archaeological Sites)

No.	Proposed Projects	Estimated Costs (MUSD)	Anticipated Dates	Targeted Objectives
T03	Museum of the Natural and Cultural History of the Rift Valley	45.5	2016-2030	2 & 3
T04	Ancient Jericho Development, Jericho	6.3	2016-2020	2 & 3
T05	Rusheideyeh Rehabilitation, North Dead Sea	4.3	2016-2025	2 & 3
T06	Rehabilitation of Ancient Jericho, Jericho	4.3	2015-2026	2 & 3
T07	Hisham's Palace Rehabilitation, Jericho	3.7	2016-2020	2 & 3
T08	Tel Abu Al Alayek Rehabilitation, Jericho	4.3	2015-2020	2 & 3
T09	Kherbet Al Bedayat Rehabilitation, Ouja	5.8	2016-2027	2 & 3
T10	Khirbet al Makhrouq Rehabilitation, Jiftleck	5.8	2016-2027	2 & 3
T11	Tel Hamma Rehabilitation, KB&EB	5.8	2016-2030	2 & 3
T12	Archaeological Landmark features Rehabilitation	1.5	2015-2020	2 & 3

The locations of all other attraction sites are distributed in the same order close to the cultural heritage and archaeological sites to serve as additional or complimentary attractions in those marginal districts. The specific location of some attraction (Jesus village and sport and Adventure centers) will depend on the urban plans and land use plans. It is important to note here that sport and adventure centers are to be created in the vision that they will conduct or manage activities such as hiking and biking as well as interpretation of both natural and cultural values of the JV (geology, geomorphology, flora, fauna, and water etc.) with a conservation and protection perspective. This is off course valid for local tourism as well as for inbound tourism (responsible tourism), Table 9.

Table 9: Interventions, Tourism Product Development (Other Attraction Sites)

No.	Proposed Projects	Estimated Costs (MUSD)	Anticipated Dates	Targeted Objectives
T13	Spa Thalasso therapy and Balneo Therapy Center (Toubas)	3.3	2015-2022	2 & 3
T14	Jesus Village (Jericho)	3.5	2016-2022	2 & 3
T15	Hiking Trails Development Project (4: Hizma-Jericho, Kofor Malek-Ouja, Nablus-Jiftleck and Toubas-KB&EB)	2	2015-2022	2 & 3
T16	Sport and Adventure Centers (4: Jericho, Ouja Jiftleck and KB&EB)	18	2015-2025	2 & 3

9.5.4 Tourism Service Development

Following the natural growth of tourism demand and to fill the gap between the Palestinian tourism industry and the region, it will be expected from the hotel industry to increase their capacity. Around 1550 4 stars hotel rooms and around 400 youth and Guest Houses are the expected needed. Hotel location will be Jericho for improving and raising its capacity and KB&EB to compliment the creation the tourism destination around the museum and other attractions. Other services are of great important to upgrade the food and beverage presentation. Adequate roads and transport are needed for attractions and other services (infrastructure projects). Better interpretation is included in the site rehabilitation

and the museum projects. Guiding training as a necessity for better interpretation is included with promotion projects.

The location of those interventions also relates to the created destinations. The Tourism and Traveler Commercial Centers are to be close to the main north-south road (Jiftleck and KB&EB) serving both passengers along the road 90 as well as tourists aiming those destinations. The locations of hotels and quest houses are proposed to be built gradually along the development of those destinations. The occupancy rates shows that the demand is much higher than the breakeven numbers and immediate and midterm additional accommodations in Jericho area will find success. Accommodations in the northern part should depend on the development of those destinations, **Table 10**.

It is important to note that Youth guest houses and 4 stars hotel resorts are the kind of accommodations demanded for both local and inbound tourisms

Table 10: Interventions, Tourism Service Development (Road Services, Accommodation, Food and Beverage)

No.	Proposed Projects	Estimated Costs (MUSD)	Anticipated Start and End Dates	Targeted Objectives
T17	Tourism and Traveler Commercial Centers (2: Jiftleck and KB&EB)	5.2	2018-2022	2 & 4
T18	Jericho and Toubas 4 stars Hotels and resorts Jericho: 1200 Rooms Toubas: 350 Rooms	80	2015-2050 Jericho: 200/3 Years Toubas: 50/5 Years	2 & 4
T19	Mud Brick Youth Village (Jiftleck or KB&EB)	5.1	2015-2020	2 & 4
T20	Youth and Guest Houses Development (4: Jericho, Ouja, Jiftleck and KB&EB)	4.2	2015-2050	2 & 4

9.5.5 Promotion and Marketing

The tourism industry guidelines for promotion and marketing presented above remains adequate and necessary. Branding the JV in the regional context as well in the national context remains important for political and business development reasons. “One Valley Three Countries” can be a phenomenal success if integrated with the long history of the Rift Valley and the well-known site of Ancient Jericho. Additional thematic promotions mentioned above will add to the strong sell of the valley, Table 11.

Table 11: Interventions, Dissemination

No.	Proposed Projects (Management and planning)	Estimated Costs (\$)	Anticipated Dates	Targeted Objectives
T02	Tourism Branding and Promotion Project	1,500,000	2016-2020	5

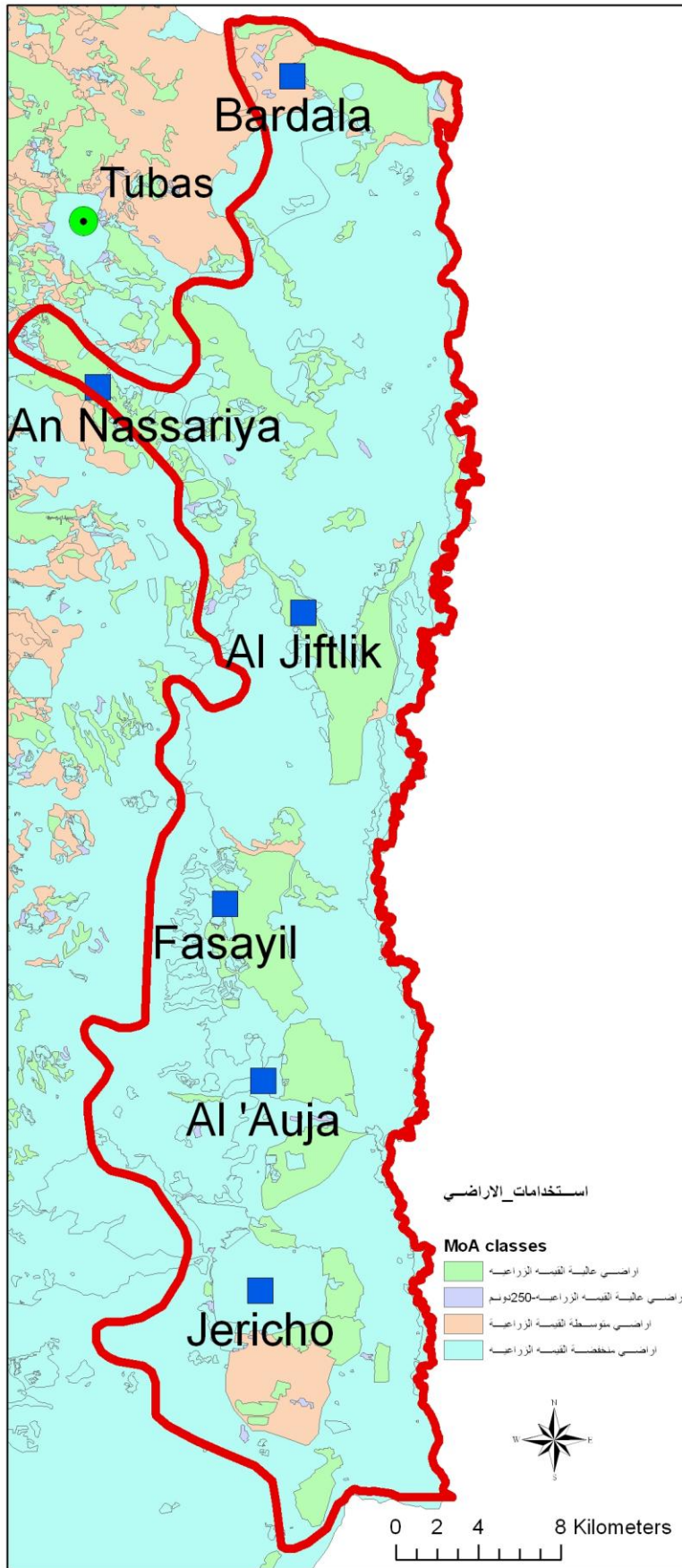
9.6 Intervention Cost Estimates

A note on cost estimates seems to be necessary especially for such long-term interventions and investments. All the above cost estimates were made on the bases of similar projects and interventions (included feasibility studies, site assessment studies, research, concept development, environmental assessment and mitigation, community approach, training and management plans) conducted during 2010-2013 in the following terms:

1. **Intervention: Planning, Management and Dissemination (T1):** The cost estimate does not include the running cost of the desired management team after the 3 years duration of the project. This cost and its resource will depend on whether it is a government integrated management or its link to the Jordan Valley Authority proposal.
2. **Interventions: Tourism Product Development, (Cultural Heritage and Archaeological Sites):**
 - a. **(T03) Museum of the Natural and Cultural History of the Rift Valley:** The cost estimate is considering research, construction, object conservation and restoration, visitor’s communication and interpretation. Although the basic setting can be compared with the last project of Hisham’s Palace site museum, nevertheless the theme and the scale of this museum is different and can vary in the concept and the concept design process processes. The current cost is reasonable for a monumental architectural design for the museum and a scale that could accommodate in half to one day group visits.
 - b. **(T04): Ancient Jericho Development, Jericho:** This is a zone planning and infrastructure project that includes road redesign and

land reclamation around the site. Cost estimates are based on current road construction projects and street furniture in historic urban areas.

- c. **(T05-T12) Rehabilitation of Site and Features:** Four main elements were considered in cost estimates. One is the 5-10 excavation seasons needed to prepare the site. Site rehabilitation (visitor trails, direction and interpretation signs). Visitor center (site museum, audiovisual room, and reception area and café-gift shop). The fourth is the tourists' mobility outside the site that includes immediate road access and parking. All cost estimates were compared with current projects around Hisham's Palace and Ancient Jericho.
3. **Interventions: Tourism Product Development (Other Attraction Sites):**
 - a. **Spa Thalasso therapy and Balneo Therapy Center, Toubas area (T13):** The cost estimate was based on all facilities and services needed to accommodate 30-50 persons per day. Further findings to increase or decrease the number will affect the cost estimate as well as the operational plan on the project.
 - b. **Jesus Village, Jericho area (T14):** Cost estimates are based on mud brick village below.
 - c. **Hiking Trails Development Project (4 trails: Hizma-Jericho, Kofor Malek-Ouja, Nablus-Jiftleck and Toubas-KB&EB), (T15):** Cost estimates were based on last intervention conducted by Massa Ibrahim in the Jenin-Nablus segment. Approach and methodology was found most convenient for trail development in close review with Rozana and Seraj.
 - d. **Sport and Adventure Centers (4 centers: Jericho, Ouja Jiftleck and KB&EB), (T16):** References and comparisons were done with recreation parks, Jericho Tourism Association center, Auja center, and the planned Jiftlick sport center.
4. **Interventions: Tourism Service Development, (Road Services, Accommodation, Food and Beverage):**
 - a. **Tourism and Traveler Commercial Centers (2: Jiftleck and KB&EB):** Cost estimates were compared with Gaz stations and adjacent commercial centers in addition to cooperatives selling stations.
 - b. **Jericho and Toubas 4 stars Hotels and resorts (Jericho: 1200 Rooms, Toubas: 350 Rooms):** Cost estimate were based on recent hotel construction in Beit Sahour and Jericho. Land cost is an important variable that might slightly change the cost.
 - c. **Mud Brick Youth Village (Jiftleck or KB&EB):** Cost estimate were made on two lines. One is a design competition between university departments of architecture. The other is the infra-structure cost of similar works.
 - d. **Youth and Guest Houses Development (4: Jericho, Ouja, Jiftleck and KB&EB):** Cost estimates was taking into consideration a gradual growth of similar centers like Auja center.
5. **Interventions: Dissemination: Tourism Branding and Promotion Project (T2):** The cost estimate is based on current activity costs like familiarization trips, trade shows, workshops and so on. The cost might vary if more of those activities found to be needed.



10 Agriculture Improvement

10.1 Objectives

The main objectives related to agriculture that the master plan is trying to respond to can be summarized in the following:

Objective 1: Develop and reclaim additional land to be made available for agricultural purposes.

Objective 2: Develop additional quantities of water from conventional and non-conventional water resources to bridge the growing gap between water supply and water demand for agricultural purposes.

Objective 3: Ensure that water consumption in the agricultural sector is adjusted to ensure cost-efficiency (choice of cultivars, use of marginal-quality water and more widespread use of improved irrigation technology).

Objective 4: Support agricultural reuse of treated effluent through many options including blending of treated wastewater with fresh water. Crops to be irrigated by the treated effluent or blend thereof with freshwater resources shall be selected to suit the irrigation water, soil type and chemistry, and the economics of the reuse operations.

Objective 5: Support farmers to use modern and efficient irrigation technologies. Protection of on-farm workers and of crops against pollution with wastewater shall be ensured.

Objective 6: Support farmers to develop agro-businesses and development their capabilities.

Objective 7: Introduce non-conventional agriculture and enhance new technologies.

10.2 Rationale and Assumptions

Based on the above objectives and the overall objective of this Master Plan, a set of proposed interventions was prepared to fulfill the objectives and matches the vision of this strategic area. The set of interventions was also based on a set of rationale and assumptions to estimate future agricultural demands, available agricultural land and population growth rates in addition to other assumptions. These rationale and assumptions are discussed below.

Present Agricultural Water Demand: In Palestine, agriculture is a major economic sector and it plays a central role in ensuring Palestinian food security. Despite the small size of the West Bank, the area enjoys a diversity of climatic regions, which makes it possible to grow almost anything, all year round. Rain-fed cultivation forms the largest cultivated area, using more than 90% of the West Bank total cultivated land. Almost 92.7% of the total irrigated areas in the West Bank are concentrated in

the two agro-ecological areas, the semi-coastal region and the Jordan Valley. Vegetables constitute 67% of the total irrigated areas.

The study area as part of the West Bank, has missed out what might be termed the hydraulic revolution that many Middle Eastern countries have undergone since World War 2 in the form of major irrigation works that enabled them to considerably enlarge the irrigated land. This revolution is exemplified by projects such as the Aswan High Dam in Egypt, al-Thawra or Tabaqa Dam on the Euphrates in Syria, the Ataturk Dam in Turkey and on smaller scale, the Water Carrier in Israel and the King Abdallah Canal in Jordan.

The study area had no such water projects and its irrigation system has remained decentralized and consists of springs and individually owned wells. Its fall under Israeli rule led to the stagnation of the irrigation water supply at 1967 levels. The irrigated area in the West Bank declined initially after the occupation reaching about 50,000 dunums in the year 1968 from 110,000 dunums in 1967.

Current Irrigation Water Demand: The current irrigation water demand is about 29 Mcm/year coming from groundwater resources both wells and springs and from the Israeli Company Mekorot. It is important to note that groundwater wells supplying agriculture are either shallow small old wells or natural springs.

Future Agricultural Water Demand: Many factors affect future agricultural water needs estimates. In addition to technical and environmental factors, social, economical, political and cultural factors also affect these needs. In this section, four main questions are to be answered aiming to reach a realistic estimate of the future agricultural water needs keeping in mind that the study area is considered the first source of agricultural production for Palestine. These questions are:

1. What are the present and future agricultural water demand estimates in neighboring countries?
2. How are Palestinian future agricultural water needs related to food security?
3. What are the comparative advantage and the competitiveness of irrigated agriculture in Palestine?
4. If water needs of Palestine were met, what effects on employment, local production, poverty, income distribution, and food security would they have?

Based on the responses to the above listed questions, an estimate of future Palestinian agricultural water needs will be established.

Agricultural Irrigable Land

According to land surveys and data from Ministry of Agriculture, the total potential irrigable area in the West Bank is 612,000 dunums, while in the coastal region of Gaza Strip, the existing rain-fed area of 96,000 dunums can be brought under

irrigation if sufficient water is made available. In the study area, the total irrigable land is some 163,000 dunums. This means that 27% of the irrigable area in the West Bank is within our study area which might suggest that 27% of agricultural products on average should be coming from the study area.

Agricultural Water Demands in Neighboring Countries

To be able to determine how much land will be irrigated in the future, one should look at neighboring countries and see how much land per capita is being irrigated. To do so, different studies have been reviewed, and the main outcome can be summarized in The following:

1. The per capita irrigated area in Jordan ranges for the different studies between 0.117 to 0.134 dunum per capita. The per capita irrigated water ranges between 135 to 143 cubic meters per capita per year.
2. The per capita irrigated area in Israel, according to different studies, ranges between 0.333 to 0.37 dunum per capita. The per capita irrigated water ranges between 218 to 222 cubic meters per capita per year.
3. The per capita irrigated area in Palestine is 0.058 dunum per capita. The per capita irrigated water ranges between 35 to 42 cubic meters per capita per year.

Based on the above estimates, it is clear that both per capita irrigated area and the per capita irrigation share in Palestine are much lower than those in the neighboring countries. This is obviously not due to lack of irrigable land. In fact, only 42,000 dunums out of the 163,000 dunums available in the study area are irrigated at present. That makes only 27% of the irrigable land of the West Bank. Based on that, it is obvious that additional irrigable land can be put under irrigation which will result in a better Palestinian agricultural sector in the future. If an average value of all the above values is considered then some 0.24 dunum per capita will need to be irrigated in the future which indicates that some 180 cubic meter of water per capita annually is needed to fulfill irrigation water needs. At the same time, it should be emphasized that agricultural activities in the study area do not only support the population within the study area but the Palestinian population in general.

The same conclusions can be reached when reviewing the agricultural future water demands in the neighboring countries. Different estimates were reported in different reports but all these estimates of per capita irrigated land and per capita agricultural water demand are higher than those reported in the different references. This means that the 180 cubic meters per capita and the 0.24 dunum per capita proposed above for future agricultural water needs are reasonable.

10.3 Agricultural Water Needs Based on Crop Water Requirement

Water requirements differ from one crop to another, the method of irrigation, and the type of soil as well. Agricultural data shows that the lowest seasonal water requirement is for green broad beans and cucumbers that are irrigated using the dripping method where a dunum requires 70 m^3 per season (lasts for three months) to produce each crop. On the other hand, producing banana using the flooding method, requires the highest seasonal water where a dunum requires 2368 m^3 per season (continued throughout the year) to produce such crop.

An average water seasonal requirement per dunum for all crops using different types of soil and different irrigation methods is calculated based on the present conditions in the study area. The average water requirement for all crops per season per dunum is about 700 m^3 . That is, in order to irrigate the total irrigable area within the study area, an amount of 113 Mcm/year will be needed. This means that if all irrigable land were brought under irrigation for all crops in all agricultural seasons. Calculating this figure on a per capita basis considering the Palestinian population in total, Palestinian per capita irrigation share would be 25 m^3 per capita per year and if the study area form 27% of the total irrigable area then a 100 m^3 per capita per year is the share of a Palestinian which is still less than all neighboring countries. This means that, it is fare to assume that all irrigable land needs to be irrigated to meet part of the future needs of the humans from traditional agricultural products.

10.4 Agricultural Water Needs and Employment

Putting more land under irrigation requires the use of other resources, especially labor. The additional irrigable land that could be put under irrigation in the study area is about 120,000 dunums. The Labor requirements per irrigated dunum range from (30-480) man-hour per season. Average labor requirement per dunum of all representative crops per season is 152 man-hour. If the labor works 8 hours a day, then labor requirement per dumum is $(152 / 8 = 19 \text{ man-days})$ per season. The total man-days generated by putting the additional irrigable land tend to be 2.28 million days. Dividing this figure by 260 working man-days per year, it can be concluded that about 8,770 agricultural jobs can be generated on full time basis per year.

10.4.1 Agricultural Water Needs and Income

Putting more land under irrigation generates more income to farmers. The additional irrigable land that could be put under irrigation is 120,000 dunums. The data available shows income generated per dunum for various irrigated crops ranges from (860-33760) NIS per season. Average income generated per dunum of all representative crops per season is 6097 NIS. If the 120,000 additional dunums were put under irrigation, the total additional generated income would be about 730 million NIS which is equivalent to some 200 Million US\$. Dividing this number by the number of jobs created recommends that the one man month is worth about 6937 NIS per month which seems to be very profitable compared to other incomes in Palestine.

10.4.2 Agricultural Water Needs and Food Security

Food is the most important basic human need. Nations must secure enough food for their population. Food can be provided by producing it locally, importing it from abroad or by a combination of both. Food security has specific position and definition in Palestine. It has direct relation to people's existence on their homeland. So, the investment in the agricultural sector is critical to the national survival.

Fast growing population, rapid urbanization, food security policies and the expansion of development and economic activities exert pressure on available water resources. As competition for water grows among users, and within the limits of water availability and/or accessibility, the call for limiting the size of agricultural sector in favor of domestic and industrial sectors will be strong. On the other hand, many scholars and politicians call for food security based on producing all food locally. These later ideas gain popular support, because agriculture plays central roles in the life, economy, and culture of Palestinians. This conflict requires the adaptation of a methodology of Water Resource Management that offers means of reconciling competing demands with supplies, integrates various needs against available water resources, and helps to achieve a sustainable development.

The continuous enhancement and development of technical, managerial, and financial capacities in the agricultural sector are critical to the national survival. This enhancement and development include water management in agriculture as a prime element. In Palestine, water management and food production enhancements have more specificity than any other areas in the world; it is connected not only to securing food or sustenance, but also to Palestinian struggle to exist in Palestine and to protect Palestinian land from being colonized by foreign Jewish immigrants.

In 2003, FAO found that the OPT is not self sufficient in food and relies upon commercial imports to meet domestic demand. It was also found that with rising poverty and unemployment, food security situation has considerably deteriorated over the past three years, with four out of ten Palestinians are food insecure. Food insecurity is a reality for 1.4 million people (35 percent of the population) and a near constant worry for an additional 1.1 million people (30 percent) who are under threat of becoming food insecure should current conditions persist. People's physical access to food and farmer's physical access to the inputs and assets to produce food have been severely affected by restrictions on the movement of people and goods and the damages to personal property caused by constant Israeli measures.

Based on the above, it is obvious that food security conditions need to be improved. The main restriction to this improvement is the lack of accessibility to additional water sources at present. To solve this issue, additional water quantities need to be allocated to irrigation and more land need to be irrigated. This goes in line with per capita figures that were presented in the previous section.

10.4.3 Future Agricultural Water Needs

Based on the above estimates, it is fair to say that by 2050, all irrigable land within the study area needs to be irrigated. It is assumed that no additional irrigable land will take place during the next few years due to the continuous restrictions on water supply then an increase in the irrigable land will take place almost at a constant rate till we reach a full irrigation to all irrigable land within the study area. The estimates are also based on a 700 m³ water requirements per dunum.

Based on these assumptions, the total irrigation water demand for the different planning years is shown in the Table 12 below. This means that the Palestinian water sector should develop an additional amount of some 114 Mcm/year by the year 2050. This amount is about 4 times the available supply at present but at the same time is not higher than the Palestinian water rights from the LJR Basin.

Table 12: Total irrigation water demand for the different planning years (MCM/Y)

Cluster Name	Year 2015		Year 2020		Year 2030		Year 2050	
	Irrigated Area Donum	Additional Water Demand MCM	Irrigated Area Donum	Additional Water Demand MCM	Irrigated Area Donum	Additional Water Demand MCM	Irrigated Area Donum	Additional Water Demand MCM
Bardala	13,500	4.627	13,500	4.627	25,200	17.64	48,800	34.16
Al-Nassariya	5,300	1.342	5,300	1.342	10,800	7.56	21,800	15.26
Al-Jiftlik	5,500	5.334	5,500	5.334	13,900	9.73	30,800	21.56
Fasayil	1,200	0.789	1,200	0.789	9,100	6.37	25,000	17.5
Al-Auja	4,000	2.825	4,000	2.825	6,700	4.69	12,000	8.40
Jericho	12,500	14.134	12,500	14.134	16,500	11.55	24,500	17.15
Total	42,000	29.05	42,000	29.05	82,200	57.54	162,900	114.03

10.5 Agricultural Development Interventions

Based on the above objectives, rationale and assumptions, a set of proposed interventions was prepared to fulfill the objectives and matches the vision of this strategic area. The set of interventions for the Agricultural sector includes land and resources development, systems development, public awareness and other related administrative issues. These interventions are listed in the Table 13 below. The table shows the name of the intervention, the estimated construction cost in Euros, the anticipated start and end date of construction and the targeted objectives from the above mentioned ones. More description of each alternative is shown in Annex XX for all proposed interventions.

From the table, the interventions focus on three main principles:

10.5.1 Develop the potential irrigable land

The study area forms a major part of the Jordan Valley which is considered the main agricultural land in Palestine. For that, any future economic development for the study area shall primarily rely on agriculture. During the last 50 years, the Israeli occupation had limited the development of agricultural activities and the expansion in irrigated areas through many constraints namely restrictions on development of water resources and restrictions on access to international market. For that, Palestinians were not able to irrigate the irrigable area within the study area. The current irrigable land is less than 40% of the irrigable land. Based on this, a group of the proposed interventions aim to develop the additional irrigable land which will require not only developing potential water resources but also introducing new technologies, new irrigation techniques and new cropping patterns. In addition and since the agricultural activities are expected to increase, this requires new infrastructure projects.

10.5.2 Future development of the Agriculture Sector

The study area forms a major part of the Jordan Valley which is considered the main agricultural land in Palestine. For that, any future economic development for the study area shall primarily rely on agriculture. The proposed interventions intend to lay the ground and fulfill the pre-requsetes required for any future development of the agricultural sector. This will include capacity building and public awareness components to secure the sustainability and the effectiveness of the proposed interventions.

Finally, it should be mentioned that part of the proposed interventions intend to respond to the present limitations and challenges to properly prepare the ground for any future agricultural development. This is clear in interventions related to:

1. Enforcement of existing laws, by laws and regulations and updating of the legislation when necessary.

2. Support more sustainable agricultural practices, such as drip irrigation, plantation of crops that are more suitable to the climatic conditions in Jordan Valley.
3. Upgrade and development of sufficient infrastructure.

Table 13: List of Proposed Agricultural Interventions

No.	Proposed Projects	Estimated Costs (\$)	Anticipated Start and End Dates	Targeted Objectives
AG01	Shifting in Cropping Pattern	800,000	2015-2016	3, 6
AG02	Rehabilitation and Upgrading of Water Systems	17,000,000	2016-2020	1, 3
AG03	Water Right Policies and Regulations.	150,000	2019-2020	2, 3, 7
AG04	Operate and Expand the Argo-Industrial Park.	2,000,000	2016-2017	5
AG05	Construction of Agricultural Roads	1,000,000	2015-2020 (2years)	1
AG06	Construction of Fish Ponds	1,100,000	2016-2017	4, 7
AG07	Enhancement of Palm Production	1,600,000	2017-2018	3, 7
AG08	Development and Support Livestock Sector	550,000	2015-2016	6
AG09	Support to Women Organizations and Beduin Communities	650,000	2016-2017	6, 7
AG10	Land Rehabilitation	152,000,000	2018-2014	1
AG11	Public Awareness Program	100,000	2021-2030	5, 6, 7

AG12	Promotions of Farmers Cooperatives.	500,000	2021-2023	5,
AG13	Jordan Valley Credit Program	600,000	<ul style="list-style-type: none"> • Preparation time: one year • Piloting time: two years • Upscaling time: four years 	6, 7
AG14	LEISA Research and Certification	600,000	4 years	2, 6, 7
AG15	Agricultural product Quality Control Lab	500,000	3 years	5,6,7

11 Institutional Framework

In order to implement the various interventions indicated in the master plan, which will require a high level of coordination between public sector institutions and ministries, it has become imperative to create an institutional body that would be responsible for such coordination. Hence, it is imperative to establish a single Palestinian entity that is responsible for development planning and regulation of the Jordan Valley, Table 13. This authority shall also address political, economic and environmental sustainability management issues. The master plan, therefore, aims to establish the “Jordan Valley Authority JVA” with the responsibility of coordinating the development plans for the Jordan Valley, consisting of public – private and civil society management system.

In order to ensure that the JVA is established on the right basis, with the required authorities, and within an empowered legal framework, an institutional needs assessment must be undertaken with the aim of developing this authority to be the development authority and regulator of the Palestinian Jordan Valley. The roles of the JVA will include land regulation, in coordination with the Palestinian Land Authority and the Ministry of Local Government. The JVA will also include water resources management and development in coordination with the Palestinian Water Authority, and social services management such as health, education and social

welfare, in full coordination with the relevant ministries and authorities. The JVA will also work in coordination with the Ministry of National Economy, Ministry of Tourism and the Ministry of Finance in areas of economic development. The JVA will be empowered to provide investment incentives for businesses and residents to be established or re-located in coordination with the Ministry of Finance and the Palestine Investment Promotion Agency.

It is estimated that the institutional needs assessment; the drafting of the legal framework for the establishment of the authority and the preparation of the by-laws will take around one year to prepare. A presidential decree will then be required to appoint the members of the governing body of the JVA. Once the government body is populated, an operational strategy and action plan will be developed, which will result in job descriptions and standard operating procedures for the JVA. This process altogether is estimated to require around 18 months from start to finish.

The establishment of the JVA will require obtaining local consensus from the various local government bodies, the Ministry of Local Government, the President's Office, represented by the various governorates involved. Once this consensus is achieved, coordination will take place with all the relevant ministries mentioned above in order to create one address for the Jordan Valley, and a one stop shop for the regulation and licensing procedures. The cost of establishment of the JVA within the abovementioned process is estimated to be around one million U.S. Dollars, not including the yearly operational expenses.

The institutional reform provides strong foundation for the creation of an enabling business environment, as there should be an improvement in public services and a low cost for implementing the governmental regulations, it is an important precondition for efficient development. Governmental policies and institutional reform as suggested, advocate measures that improve the regulatory business environment and the investment climate, using selective and targeted policy interventions to improve the private sector's access to finance (especially small and medium enterprises), to provide management and technical training, to provide a range of business development services, and to support human resources development and innovation capabilities; have access to water and energy resources; improve health and education services; protect the ecology and environment; support tourism and the protection of cultural heritage. Sustainable development require many factors including skills, market access and finance; accordingly the proposed interventions have included many projects that have to be supported with these factors to ensure the appropriate performance of a stable and constantly growing economy. This master plan also indicates the need for the establishment of a regulatory environment including laws, rules, and regulations combined from government entities and the private sector, to monitor business development and motivate economic growth.

11.1 Institutional Framework Interventions Summary: the following table summarizes the institutional framework interventions.

Table 13: Institutional Framework Interventions

Intervention	Estimated Cost (\$)	Target Objectives	Anticipated Start and End Years
I1 Jordan Valley Authority Development Program	Preparation cost: \$1,000,000		1.5 years

12 Conclusions

The current situation the Lower part of the Jordan River (LJR) basin demands special and focussed attention, the area holds great potential for the development of the Palestinian economy. Israel maintains almost full control over the area, preventing any efficient Palestinian development. Thus, the formation of this master plan, comes as a supportive scheme comprised on outputs of a number of development plans that target all economic sectors, and is based on the Palestinian National Development Plan 2014 and the UN Millennium Development Goals of 2014, while providing for a more comprehensive and longer range framework for the development of the LPJR.

The challenges for economic development are diverse. They are derived from the weak characteristics of the private sector in Jordan Valley due to the inaccessibility of resources and land. Nevertheless, the interventions proposed are divided into short/medium implementation terms, and long implementation term. They are based on the assumption that during the years 2015-2020 Palestine is not a sovereign state and is faced with many issues including weak economy, deterioration of water infrastructure, expansion of Israeli occupation and settlements and Israeli control of Area “C”. During this period, Palestine is dependent on donor money for development and is focused on compensating for the Israeli occupation measures that impose high costs on the Palestinian economy.

During the period 2020-2050, the interventions are based on the assumption that there will be a peace agreement; all Israeli settlements in the LJR Basin and the WB will be removed; the economy will grow due to the freedom of movement of people, services and goods. Private and foreign investments will be encouraged due to the stability in the region. In short, there will be an investment climate resulting from the reforms in general, and a conducive regulatory business environment.

The master plan and its interventions will, thereby provide in the short to medium range for the needed adjustments to improve the socio-economic situation, while setting the ground for the long term unleashing of the economic potential in the region, and setting the ground for future regional cooperation in areas identified within shared resources and protection of the environment and ecology set on the basis of equal partnership between the riparian states of the LJR, and sharing the same biosphere.

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Palestinian NGO Master Plan for Sustainable Development of the Lower Part of the Jordan River Basin

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Royal HaskoningDHV
in partnership with:

CORE Associates

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in co-operation with:

**SIWI – Stockholm International Water Institute,
GNF – Global Nature Fund**

European Union's
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