

# Locality Profiles and Needs Assessment in the Jericho Governorate

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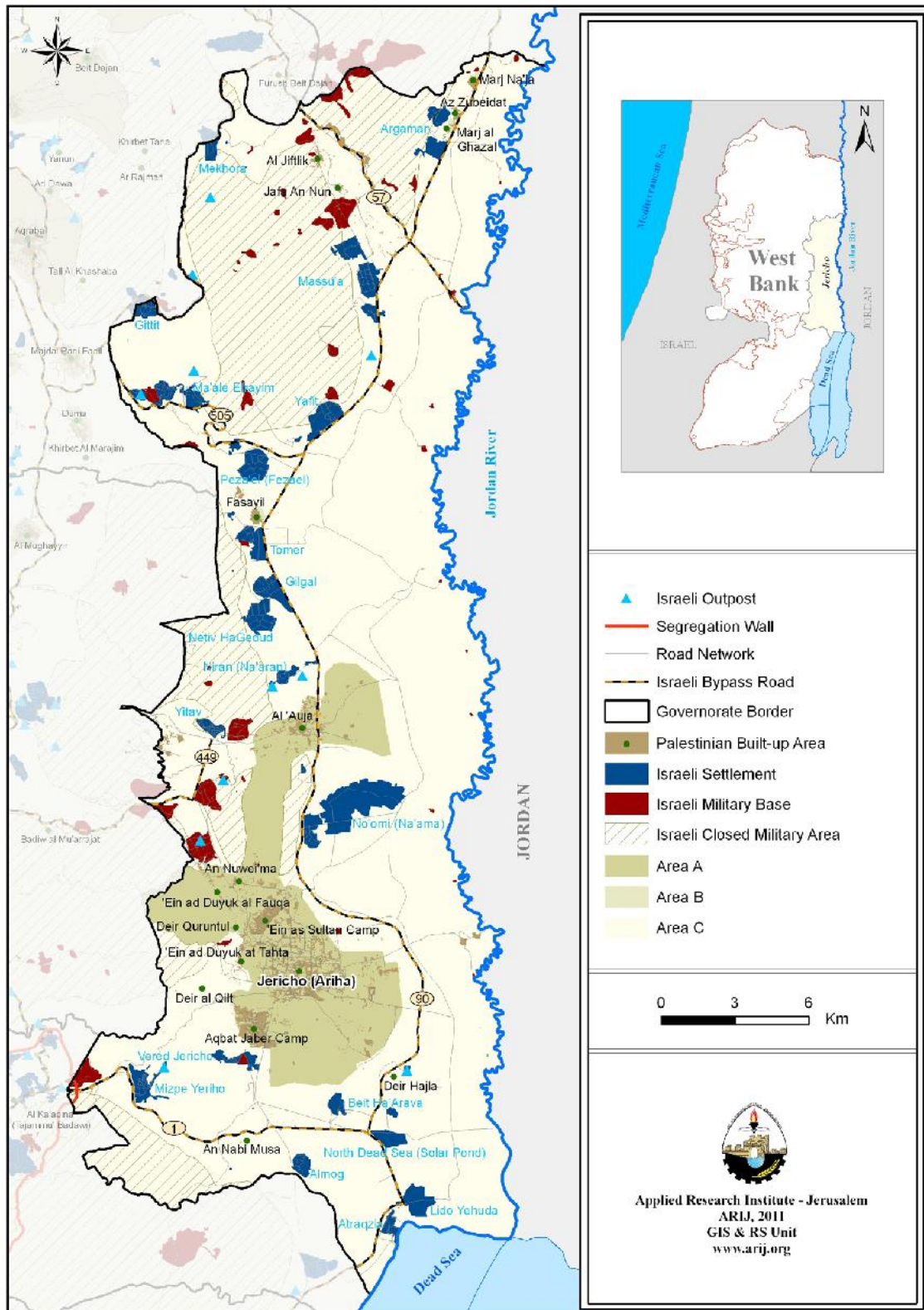
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2012

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## *Acknowledgments*

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**Editors**

*Jad Isaac*

*Roubina Ghattas*

*Nader Hrimat*

**Contributors**

*Iyad Khalifeh*

*Hiyam Hazineh*

*Elia Khalilieh*

*Nadine Sahouri*

*Juliette Bannoura*

*Flora Al Qassis*

*Ronal Al Sughayyar*

*Mohammad Abu A'mriya*

*Abeer Khair*

*Poppy Hardee*

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***PART ONE***  
***Introduction***

## Locality Profiles and Needs Assessment in the Jericho Governorate

This study comes as a result of a comprehensive analysis of all localities in Jericho Governorate. It aims at depicting the overall living conditions in the region along with presenting plans to assist in developing the local populations' welfare and livelihoods. This has been accomplished through the 'Village Profile and Needs Assessment in Jerusalem, Ramallah and Jericho / Al Aghwar', a project funded by the Spanish Agency for International Cooperation for Development (AECID).

### 1.1. Project Description and Objectives:

The 'Village Profile and Needs Assessment in Jerusalem, Ramallah and Jericho / al Aghwar' was designed to **study, investigate, analyze** and **document** the socio-economic conditions in each of the aforementioned regions. On the basis of this investigation, resultant programs and activities necessary to mitigate the impact of the current insecurity of these conditions were formulated and presented in this integrated report. In undertaking this, there has been a particular focus on **water, environment, and agricultural** issues in these regions.

The project's objectives were to survey, analyze and document the available natural, human, socio-economic, and environmental resources in Jericho, along with their existing limitations and the need for development of rural and marginalized areas in the region. In addition, the project aims to prepare strategic developmental programs and activities to mitigate the impact of the current political, social, and economic instability. The main focus has been placed on the **agricultural sector**, due to its size and importance to human welfare in Jericho. This project has continued the accomplished village profiles for Hebron, Bethlehem and Tubas Governorates, as a step towards covering all the West Bank and Gaza Strip Governorates.

### 1.2. Project Activities

#### 1.2.1. Data Collection

There are two different historical administrative boundaries for localities in the Palestinian Territory. The first was set by the British during the 'Mandate of Palestine' in 1922, with the second being determined by the Israeli Authorities during their occupation of the Palestinian Territory. In 1994, the Palestinian National Authority (PNA) adopted a third set of physical classifications. However, the integrated classification system developed by the Palestinian Ministry of Planning, the Ministry of Local Government, the Palestinian Central Bureau of Statistics (PCBS), and the Central Election Commission (CEC) were chosen for this study, since it is more suitable for the current Palestinian context. It was deemed more relevant because this boundary demarcation refers to the most recently delimited regions, by which data from Palestinian national sources is regionally classified.

In terms of land coverage, Jericho Governorate has 32, 639 dunums of land classified as 'built up areas.' Up to 9,631 dunums of these are Palestinian built up areas, whilst the remaining 23,008 dunums are classified as Israeli settlements (ARIJ – GIS Unit, 2011b). According to the aforementioned Palestinian integrated physical classification system, Jericho Governorate was divided into 13 localities, which are identified under 10 main administrative boundaries. These boundaries are further classified into three main administrative regions: those run by Municipal councils, those run by Village councils and those run by Refugee camps/projects' committees. See Map 1 for a presentation of the different administrative boundaries by location and council.



### 1.2.2. Data Analysis

The methodological approach of the village profiling project very much centers upon community participation, with a focus on the inclusion of marginalized persons and groups in data analysis. Therefore, data collection involved a community questionnaire developed by Village Profiling staff, which was subsequently filled by locality officials on behalf of numerous different groups (women, youth, agricultural workers, housekeepers etc) in the Governorate localities, under the supervision of the project specialists.

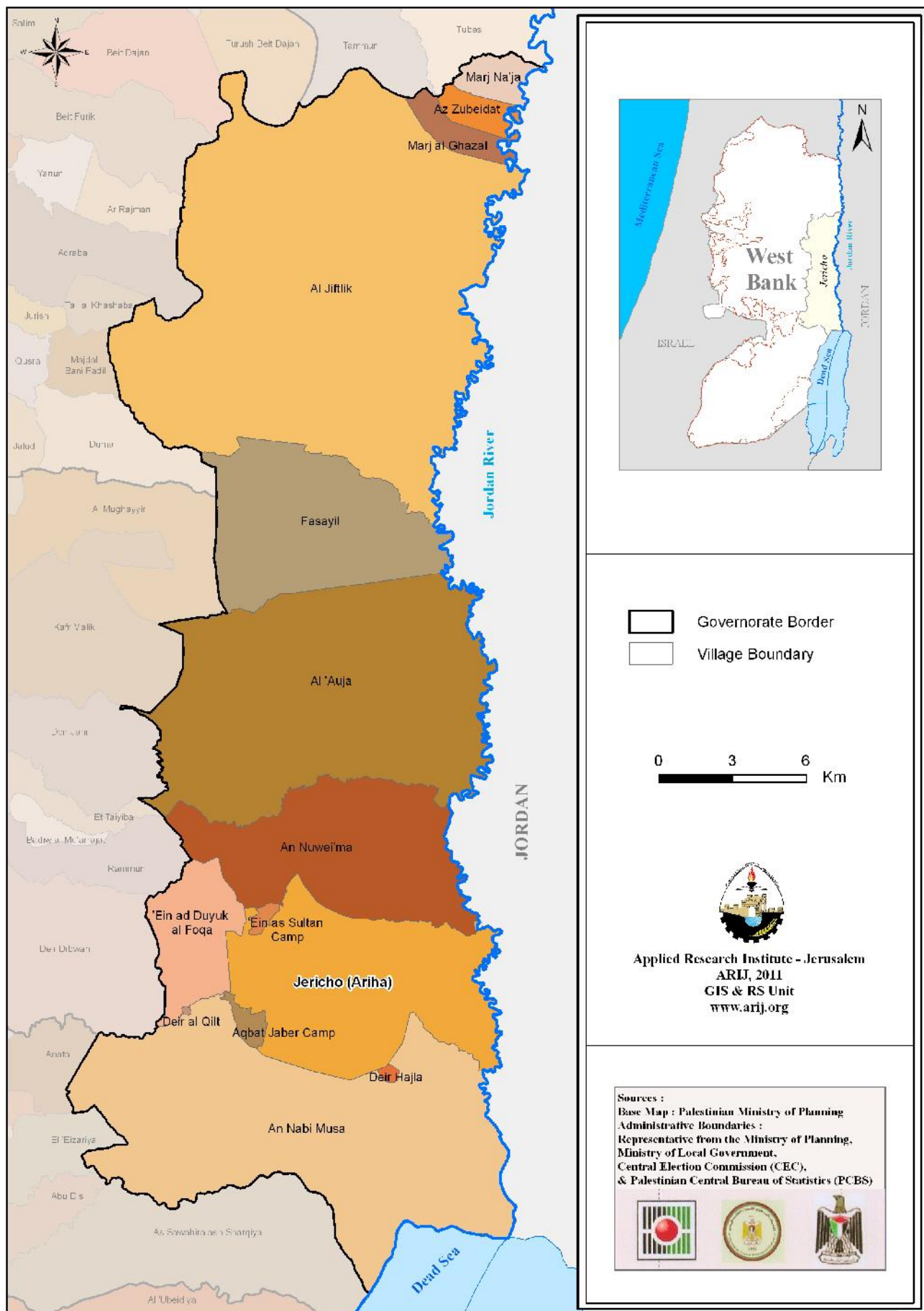
The data provided in the questionnaire dealt with profiling the needs of the different localities by asking questions relating to economic, cultural, social and health issues. In addition to this, data from the Palestinian Central Bureau of Statistics (PCBS), the Ministry of Agriculture (MoA), the Ministry of Health (MoH) and the Ministry of Education and Higher Education (MEHE) and other related organizations has been analyzed and collated in one village profile which includes data concerning *Demography, History, Education, Health, Economy, Natural Resources, Agriculture, Geopolitical Conditions, Infrastructure, Local Institutions and Services*.

It is noted that all information taken from the PCBS refers to the Governorate of ‘Jericho and Al Aghwar’, whereas other data sources may pertain only to Jericho boundaries.

ARIJ’s GIS (Geographic Information System) and Remote Sensing Unit developed explanatory maps for each locality in the Governorate. Each profile contains 3 maps: a location map, an information map, and a land use/land cover map.

Thirteen locality profiles were developed, which include all localities in the Jericho Governorate. Further to this, a final project presentation will be produced which will summarize and present the finding of all Village Profiling efforts in Jericho. In addition, each profile contains a list of each locality’s developmental needs and priorities. This report contains integrated information about Jericho Governorate and needs for developmental project proposals (formulated as a response to the collected and analyzed data) at Governorate level. The completed profiles of all communities with their fact sheets and their needs for development matrixes are available online at (<http://vprofile.arij.org>)

Map 1: Localities' administrative boundaries



Source: ARIJ - GIS Unit, 2011a.

### 1.2.3. Participatory Rapid Appraisal (PRA) Workshops

Many meetings, interviews and focus groups were conducted with farmers, local authorities and active institutions in the area in order to conduct a collective analysis, upon which all resultant development plans have been based.

The aim of the Participatory Rapid Appraisal (PRA) approach was to learn from the communities and the key persons/institutions working within them regarding their knowledge, attitudes and practices concerning agriculture and the management of available natural resources. This was done with the focus of enabling local people to assess these issues and to make their own plans to address them.

Nine PRAs took place in the villages' councils, camp committees (Table 1). The nine PRAs were conducted (one for each administrative locality) along with a Governorate level meeting to gain feedback from an authority perspective, involving the preparation of a needs assessment and development planning proposal in response to information gathered from previous workshops and meetings. A final workshop was conducted at the end of Jericho village profiling. The collected data was documented and analyzed, and several developmental plans and projects were formulated. As a result thirteen village profiles were developed and translated into both Arabic and English.

*Table 1: Name of surveyed localities by type, population number and administrative body*

Locality	Population	Type	Administrative body
Marj Na'ja	683	Rural	Village Council
Az Zubeidat	1,357	Rural	Village Council
Marj al Ghazal	193	Rural	Village Council
Al Jiftlik	3,546	Rural	Village Council
Fasayil	1,029	Rural	Village Council
Al 'Auja	3,934	Urban	Local Council
An Nuwei'ma & 'Ein ad Duyuk al Fauqa	1,971	Rural	Local Council
Jericho (Ariha)	17,515	Urban	Municipality
Ein as Sultan Camp'	3,017	Refugee Camp	Camp Committee
Aqbat Jaber Camp	6,851	Refugee Camp	Camp Committee
Deir Hajla	8	Rural	N/A
An Nabi Musa	295	Rural	N/A
Deir al Qilt	4	Rural	.N/A

*Source: PCBS, 2009e.*

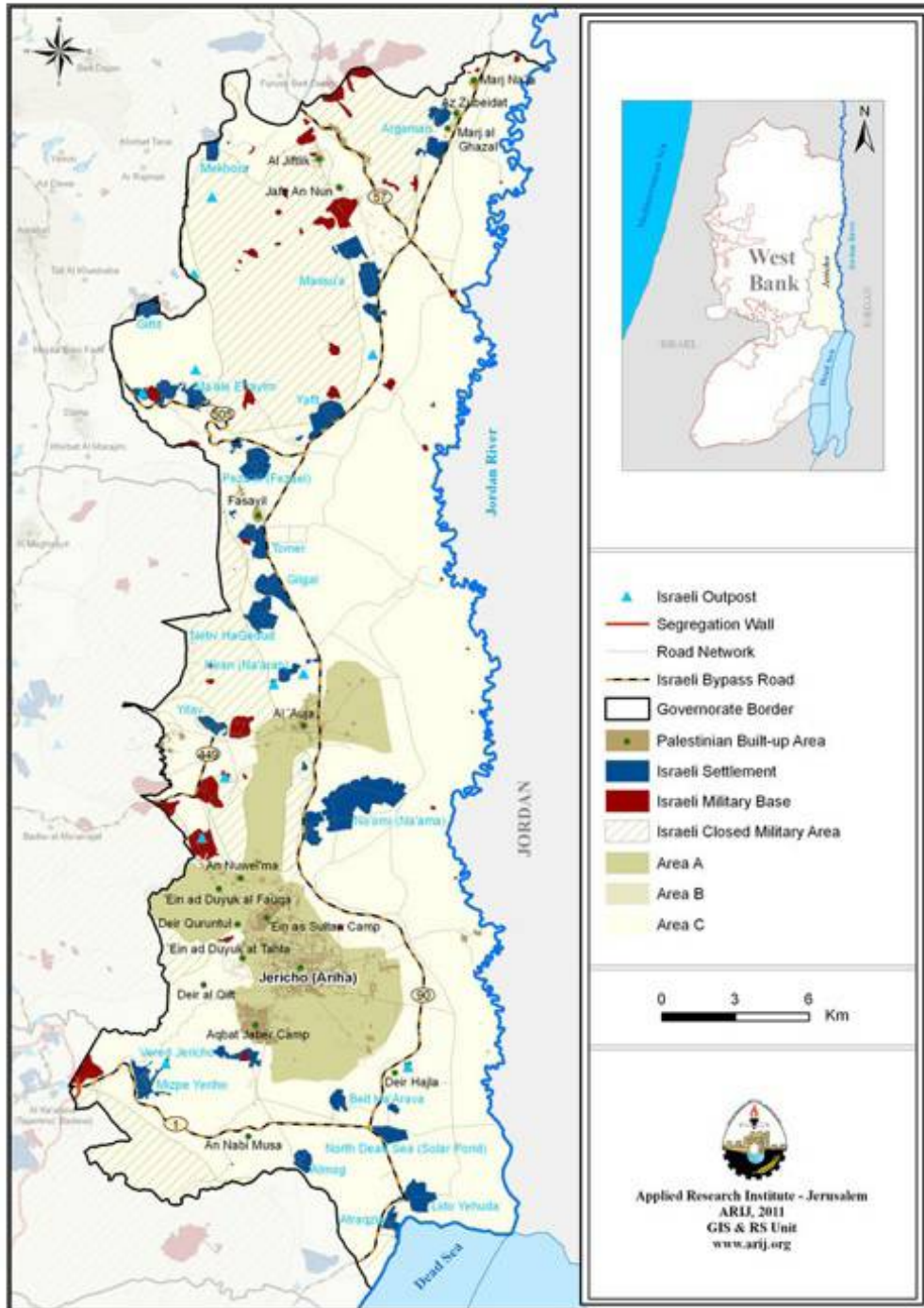
### 1.2.4. Internet Database

ARIJ's Computer and Information Technology (IT) unit developed an online resource for Jericho Governorate locality profiles in the following languages: Arabic and English. All data has been posted on the internet in an organized and comprehensive database, which is easy to navigate and accessible to all. The profiles, maps, and fact sheets, and needs for development for every locality, as well as the integrated proposed project profiles for every locality, can be found at the following website: <http://proxy.arij.org/vprofile/Jericho>



### The Palestinian Community Profiles and Needs Assessment

Bethlehem Governorate | Hebron Governorate | Tubas Governorate | **Jericho Governorate**



***PART TWO:***  
***Location, Physical Characteristics***  
***& Socio-Economic Conditions in***  
***Jericho Governorate***

## 2.1. Location and Physical Characteristics

Jericho Governorate is located along the eastern part of the West Bank and shares borders with Jordan. It is bordered by Tubas Governorate to the north, Jordan to the east, Nablus to the northwest, Ramallah to the west, Jerusalem to the southwest, and the Dead Sea to the south. As a region, Jericho covers a total land area of 592,815 dunums (592.82 km<sup>2</sup>), divided into eighteen major land use classifications. These include Palestinian built up areas, Israeli settlements, closed military areas, military bases, open spaces, forests and construction sites (ARIJ – GIS Unit, 2011b) (See Map 2).

There are 13 localities in Jericho Governorate: broken down into 13 geographical and 10 administrative areas. Some localities are run by village councils (5) and others by project municipalities (1). There are additionally two refugee camps in the area, run by camp committees, and two small communities not under any official administration. It is noted that Palestinian built-up areas constitute 1.62 % of the total area of the Governorate.

Table 2 (below) provides the names of each locality, their status as ‘geographical’ or ‘administrative’ and those areas with refugee populations:

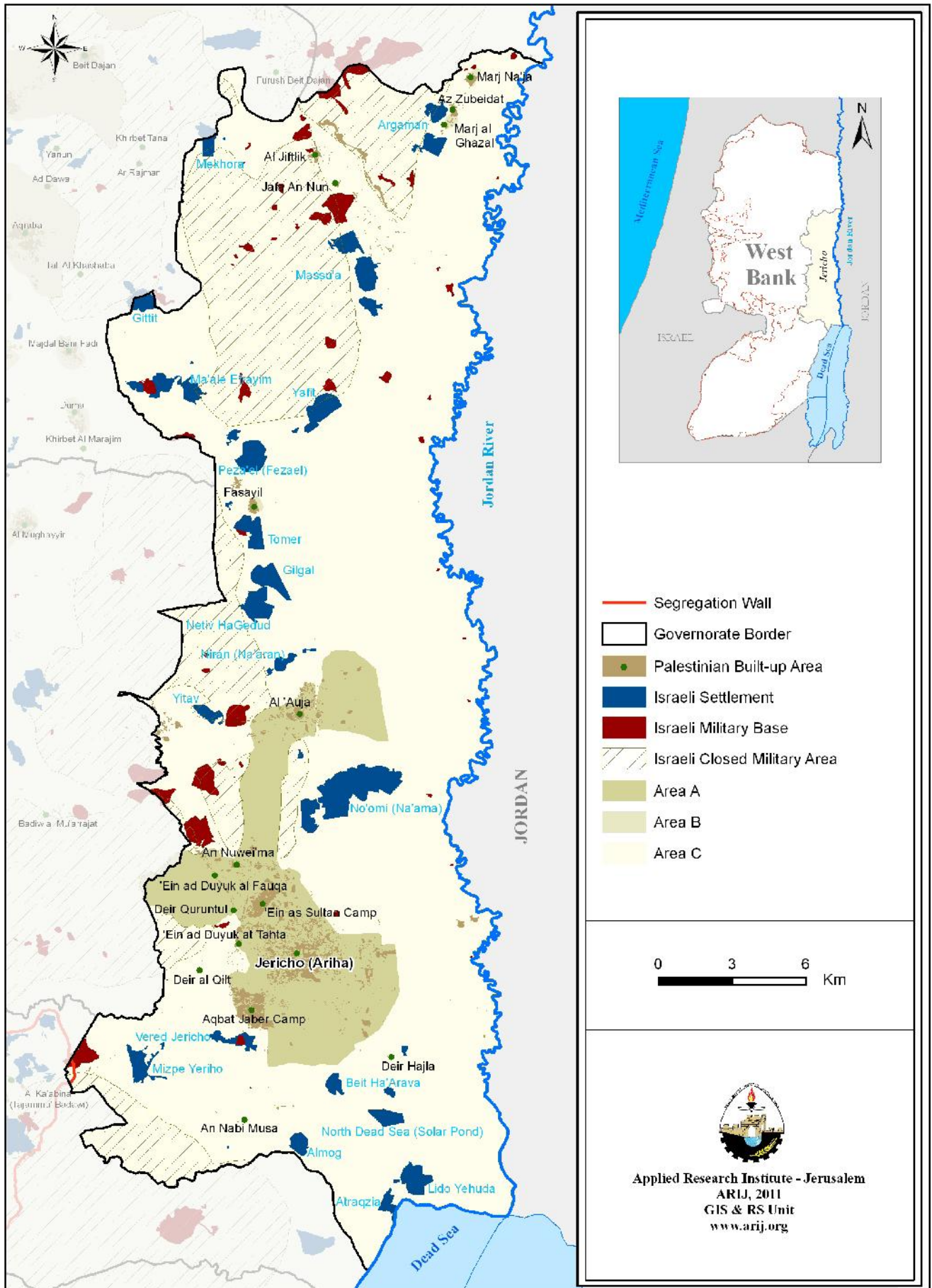
*Table 2: Jericho and Al Aghwar Governorate by geographical and administrative locality*

Geographical Locality	Administrative Locality	Type
Az Zubeidat	Az Zubeidat	Village Council
Marj Na'ja	Marj Na'ja	Village Council
Al Jiftlik	Al Jiftlik	Village Council
Fasayil	Fasayil	Village Council
Marj al Ghazal	Marj al Ghazal	Village Council
Al 'Auja	Al 'Auja	Local Council
An Nuwei'ma	Merged as one administrative division.	Local Council
'Ein ad Duyuk al Fauqa		
'Ein as Sultan Camp	'Ein as Sultan Camp	Camp Committee
Jericho (Ariha)	Jericho (Ariha)	Municipality
Aqbat Jaber Camp	Aqba Jaber Camp	Camp Committee
Deir Hajla	No Administration	
Deir al Qilt	No Administration	
An Nabi Musa	No Administration	

*Source: PCBS, 2009a.*

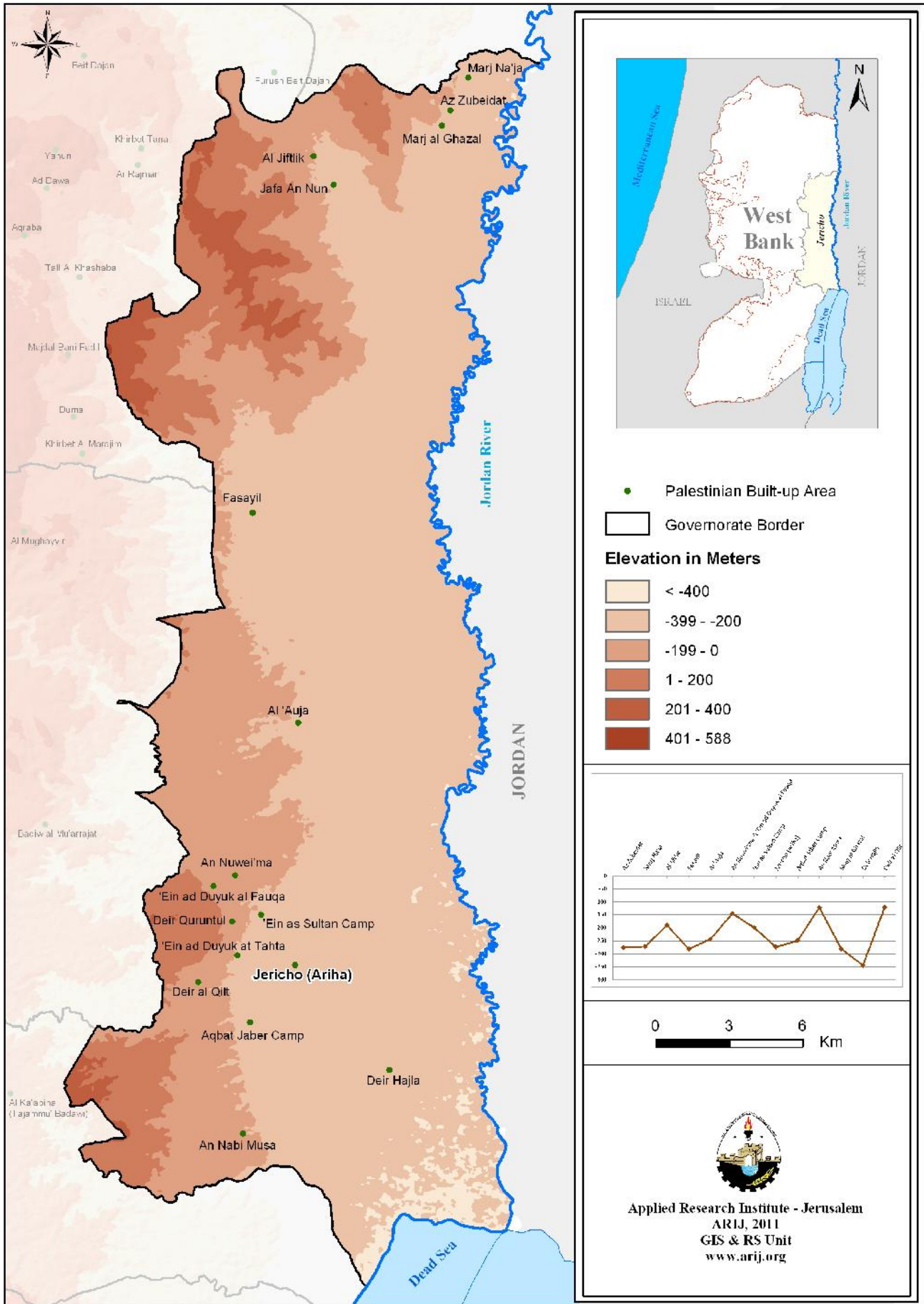
Jericho Governorate is further characterized by great variation in its topography and altitude, being dominated by the topography of the Jordan Rift Valley. It has an elevation varying between 400m below sea level in the east, to 585m above sea level toward the west and northwest. The lowest elevation is at the coast of the Dead Sea (ARI – GIS Unit, 2011c) (See Map 3).

Map 2: Location and borders of Jericho Governorate



Source: ARIJ – GIS Unit, 2011a.

Map 3: Topography of the Jericho Governorate



Source: ARI – GIS Unit, 2011c

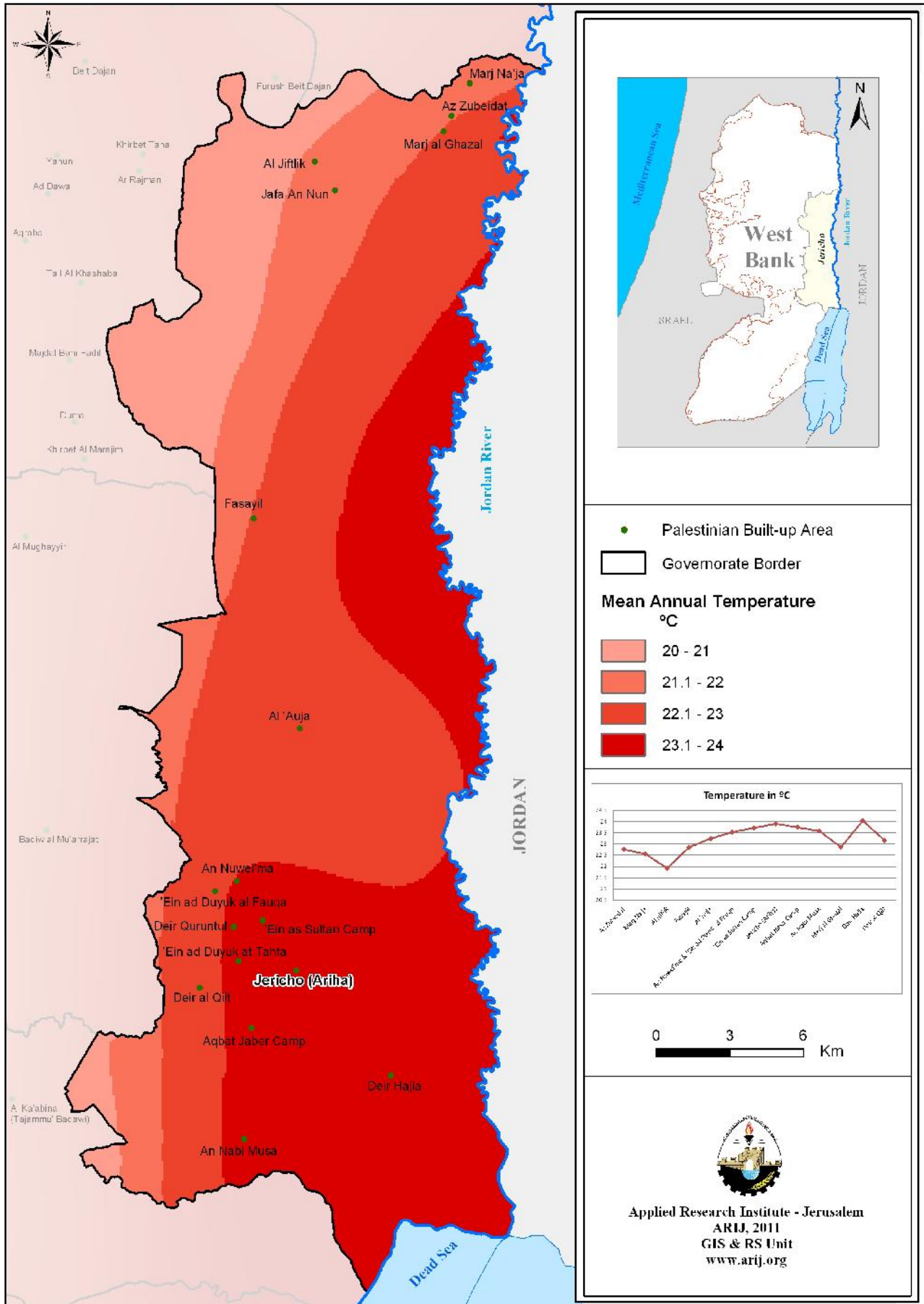


Situated well below sea level on an east-west route 16 kilometers north of the Dead Sea, Jericho is the lowest permanently inhabited site on earth. It is also believed to be the oldest continuously-inhabited city in the world (Freedman et al, 2003).

Jericho Governorate's climate is hot and dry in the summer, with mild winters. The mean average temperature across the region is 23.24 0C, with temperatures each year ranging on average between 15 0C in January and 31 0C in August (ARIJ - GIS Unit, 2011a) (See Map 4). Furthermore, the region's continuous warm weather and alluvial soil makes the area good for agricultural production, one of the contributing factors to its success in having the third largest area of agricultural lands amongst the West Bank Governorates.

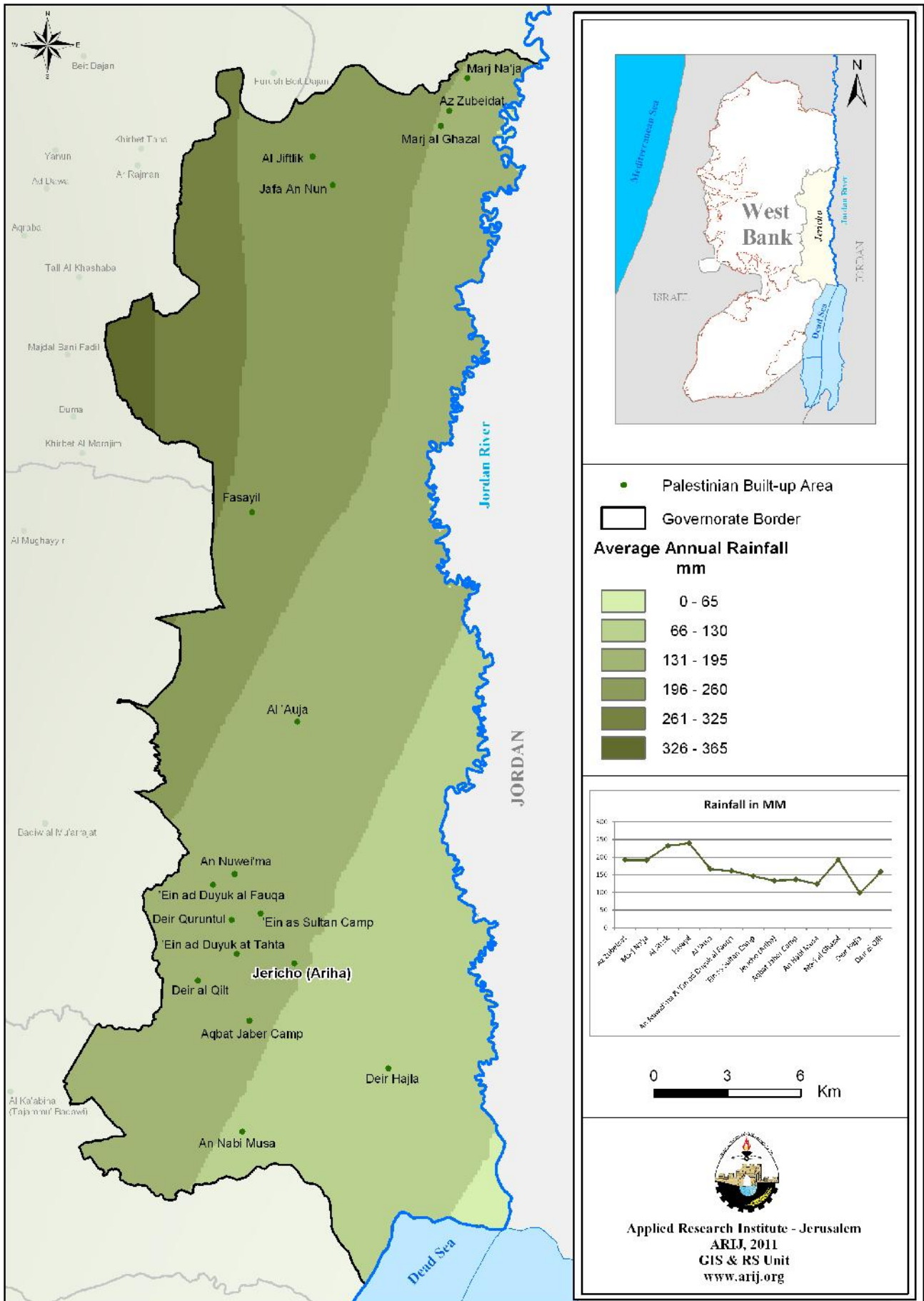
Summers in Jericho Governorate are hot and dry, while the mean quantity of rainfall varies from year to year. The mean annual rainfall is 159.4 mm, with an average humidity of 49.17% (ARIJ - GIS Unit, 2011a) (See Map 5). In 2011, the yearly rainfall substantially differed across the various localities in Jericho - there being the highest rainfall at 191.76 mm in Az Zubeidat region, and the lowest calculated at 98.19 in Deir Hajla. The diversity in rainfall in Jericho is, in part, accounted for by the vast climatic differences between regions- from desert wilderness to arable low lands and Dead Sea coastal areas.

Map 4: Temperature in the Jericho Governorate



Source: ARIJ - GIS Unit, 2011a

Map 5: Rainfall in the Jericho Governorate



Source: ARIJ - GIS Unit, 2011a

## 2.2. Population

The total population of Jericho and Al Aghwar Governorate in 2007 was 42,320 persons, approximately 1.8% of the total population of the West Bank<sup>1</sup>.

Table 3 (below) shows the distribution of the population by sex and type of region (urban, rural and camp):

Table (3): Population in Jericho and Al Aghwar by type of area and gender disaggregation (2007)

Location	Male	Female	Total
Rural Area	4,762	4,756	9,518
Urban Area	11,203	11,263	22,466
Camp Area	5,222	5,114	10,336
Total Area	21,187	21,133	42,320

Source: PCBS, 2009a.

Table 4 compares the population of the Jericho Governorate between 1997 and 2007.

Table 4: Total population of the Jericho and Al Aghwar Governorate in the years 1997 and 2007

Population of Jericho Governorate	Years	
	1997	2007
Male	15,886	21,187
Female	15,615	21,133
Household	5,120	7,615
<b>Total Population</b>	<b>31,501</b>	<b>42,320</b>

Sources: PCBS, 1997.

PCBS, 2009a.

According to the PCBS's classification<sup>2</sup> for the types of the Palestinian localities in their 2007 statistical census, 53.02% of Jericho Governorate's population live in urban areas, 22.49% in rural areas, and 24.49% inhabit refugee camps (See Table 3).

Jericho Governorate consists of 10 administrative districts with one municipality, Jericho city (Ariha). The major districts in terms of population size are: Aqbat Jaber Camp (6,000 persons), Al 'Auja (3,000 persons) and Al Jiftlik (3,000 persons) in addition to several other rural and camp areas.

<sup>1</sup> Includes population counted during the period 1-16/12/2007 and uncounted population estimates according to a post enumeration survey.

<sup>2</sup> \*An urban area is any locality whose population amounts to 10,000 persons or more. This applies to the entire Governorates' center regardless of their size. Additionally, it refers to all localities whose population varies from 4,000 to 9,999 persons- provided they have at least four of the following elements: a public electricity network, a public water

\*A rural area is any locality whose population is less than 4,000 persons or whose population varies from 4,000 to 9,999 persons lacks four of the aforementioned elements.

\*A refugee camp is any locality referred to as a refugee camp and administrated by the United Nations Relief and Work Agency for Palestinian Refugee in the Near East (UNRWA).

The 2007 PCBS Census further identified that 39.36 of the population in Jericho Governorate were less than 15 years of age, with 50.61% in the age group 15-64. 3.7% were 65 years old or older and 2.9% were unaccounted for (PCBS, 2009f).

Based on the population projection statistics of the PCBS, the Jericho Governorate population by mid-2011 was estimated at 46,716 persons, of which 23,406 are male and 23,312 are female (PCBS, 2011c).

### 2.3. Labor Force

In terms of the economy, Jericho Governorate registered an unemployment rate of 13.3% in 2011 compared with an average of 17.3 % for the West Bank, with the labor force forming approximately 49% of the population. The average daily wage in 2011 was up to 79.7 NIS (around \$21.2 at the time of publication). This is lower than the average daily wage for the West Bank, which is calculated at 85.0 NIS (PCBS 2012a) (See Table 5).

*Table 5: Labor Force Participation Rate, Unemployment Rate and Average Daily Wage in NIS for Wage Employees in the Jericho Governorate, 2011*

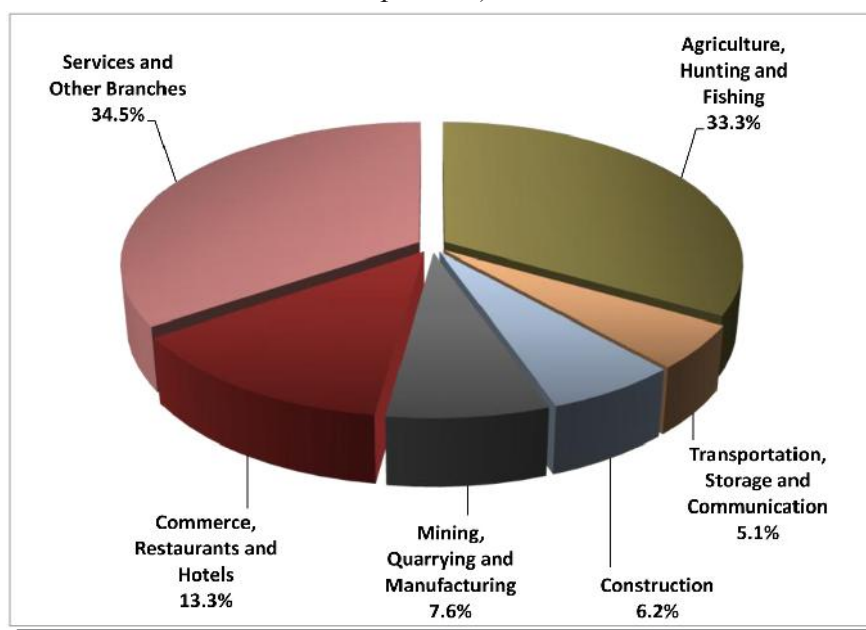
Governorate	Labor Force Participation Rate	Unemployment Rate	Average Daily Wage in NIS for Wage Employees
Jericho and Al Aghwar	49	13.3	79.7*

*\*The workers in Israel and Israeli Settlements are not included.*

*Source: PCBS, 2012a.*

The PCBS's annual report of their labor force survey conducted for the year 2011 showed that the 'services and other economic activities sector' ranked first in the number of working persons in Jericho (34.5%) followed by 'agriculture' with 33.3%, then 'commerce', restaurants and hotels' with 13.3%, and 'mining, quarrying and manufacturing' ranked fourth at 7.6%. The construction sector ranked fifth with 6.2% and 'transportation, storage and communication activities' came sixth with 5.1%, as listed in Table 7 (PCBS, 2012a). Jericho Governorate has the second highest (after Tubas Governorate) percentage of formally registered agricultural workers in the West Bank, with farming and agricultural production being the largest regional industry (See Figure 1 and Table 6).

Figure 1: Labor force activity for Jericho and Al Aghwar Governorate (% amongst employed persons)



Source: PCBS, 2012a.

Table 6: Percentage distribution of employed persons from the Jericho Governorate by economic activity, 2011

Economic Activity	Governorate (%)	
	Jericho	West Bank
Agriculture, Hunting and Fishing	33.3	13.3
Mining, Quarrying and Manufacturing	7.6	13.7
Construction	6.2	16.8
Commerce, Restaurants and Hotels	13.3	19.9
Transportation, Storage and Communication	5.1	5.7
Services and Other Branches	34.5	30.6
<b>Total</b>	<b>100</b>	<b>100</b>

Source: PCBS, 2012a.

According to the distribution of employed persons by employment sector during the fourth quarter of 2011, the private sector has the biggest share of employed persons in Jericho Governorate followed by the public sector, whilst 19.8% of the labor works in Israel and other Israeli settlements (See Table 7).

Table 7: Percentage distribution of employed persons aged 15 years and above in the Jericho Governorate by sector (ILO Standards), October- December, 2011

Governorate	(% ) Sector				Total
	Public Sector	Private Sector	Other Sectors	Israel and Settlements	
<b>Jericho</b>	22.4	53.8	4.0	19.8	100
<b>West Bank</b>	15.9	68.9	1.8	13.4	100

Source: PCBS, 2012b.

The 2007 PCBS census in Jericho and Al Aghwar Governorate showed that 65.3% of the population were within the working age group (10 years of age and above<sup>3</sup>). Of the 27,646 people within the working age range (10 years of age and above), approximately 38.1% were economically active, 20.1% female and 79.9% male. Consequently, 60.9% were not economically active<sup>4</sup> (outside the labor force), 69.3% female and 30.7% male (PCBS, 2011a). The largest groups within the non-economically active population were students and housekeepers, constituting 49.2% and 38.2% of that population respectively. Table 8 shows the labor force statistics in the Governorate (as of 2007).

Table 8: Jericho population (10 years and above) by sex and employment status, 2007

Sex	Economically Active				Non Economically Active						Un-known	Total
	Em-ployed	Cur-rently Unem-ployed	Unem-ployed (Never worked)	Total	Stu-dents	House-keep-ing	Una-ble to work	Not work-ing & Not looking for work	Oth-er	Total		
<b>M</b>	7,696	428	302	<b>8,426</b>	4,024	26	730	165	230	<b>5,175</b>	126	<b>13,727</b>
<b>F</b>	1,933	94	94	<b>2,121</b>	4,272	6,423	810	47	137	<b>11,689</b>	109	<b>13,919</b>
<b>T</b>	9,629	522	396	<b>10,547</b>	8,296	6,449	1,540	212	367	<b>16,864</b>	235	<b>27,646</b>

Source: PCBS, 2009a.

## 2.4. Educational Status

According to the 2007 PCBS census, 7.59% of Jericho residents were illiterate with women comprising a greater percentage (73.2%) of the illiterate population than their male counterparts (26.8%). Of the literate population, 15.9% could read and write with no formal education, 27.3% had completed elementary education, 28.5% had completed preparatory education, 11.9% completed secondary education, 8.41% had achieved a higher level of education, and 0.4% were unknown/ not stated. Table 9 shows the education status in Jericho Governorate by sex and educational attainment in 2007.

Table 9: Population (10 Years and above) in the Jericho Governorate by Sex and Educational Attainment, 2007

Sex	Educational Attainment											Total
	Illiter-ate	Can read and write	El-emen-tary	Pre-pa-ratory	Sec-ond-ary	As-soci-ate Di-ploma	Bach-elor	High-er Di-ploma	Mas-ter	PhD	Un-known	
<b>M</b>	563	2,181	4,015	4,132	1,649	377	646	17	73	17	57	13,727
<b>F</b>	1,535	2,219	3,529	3,737	1,657	497	659	9	30	3	44	13,919
<b>T</b>	<b>2,098</b>	<b>4,400</b>	<b>7,544</b>	<b>7,869</b>	<b>3,306</b>	<b>874</b>	<b>1,305</b>	<b>26</b>	<b>103</b>	<b>20</b>	<b>101</b>	<b>27,646</b>

Source: PCBS, 2009a.

Jericho Governorate has just one educational directorate, with the governmental sector having the biggest share of schools there (approximately 67.7% of the total number of educational institutes).

<sup>3</sup> This includes students, not only labour force participants. Across the whole of the oPt, in 2010, just 4.8% of 10-17 year olds were registered as 'in the labour force' - making under-age workers a very small percentage of formal labour force activity in the country. Therefore, for Jericho, when it is shown that 38.1% of people in the Governorate are of 'working age' (10yr <) this does not mean that they are 'working' within the labour force, but means they may have a student or housekeeping status etc.

<sup>4</sup> Including students

There are three refugee camps in Jericho Governorate and 5 schools administered by UNRWA. One of these schools is for females with the remaining four providing a co-educational environment. The private sector also controls 5 schools, all of which are co-educational (See Table 10).

*Table 10: Distribution of schools in the Jericho Governorate by supervising authority and gender, 2011/2012*

Supervising authority in Jericho Governorate	Male	Female	Co-education	Total
<b>Government</b>	6	6	9	<b>21</b>
<b>UNRWA</b>	0	1	4	<b>5</b>
<b>Private</b>	0	0	5	<b>5</b>
<b>Grand Total</b>	<b>6</b>	<b>7</b>	<b>18</b>	<b>31</b>

*Source: MOEHE, 2012.*

The Palestinian population is a youthful one (as of 2011 60.5% of the West Bank's population were classified as under 24 years of age, with this rising to 62.4% for the entire Palestinian territory<sup>5</sup>) and this holds true for Jericho. Amongst the students in the Governorate, 49.8% attend governmental schools, whilst 14.7% attend private schools and 35.5% UNRWA run schools. There is no significant difference between the participation of females and males in the educational system; males constitute 48.9 % and females constitute 51.1 % of students in Jericho Governorate (MOHE, 2012) (See Table 11).

*Table 11: Distribution of Students in Jericho Governorate by Supervising Authority and gender, 2011/2012*

Supervising authority in Jericho Governorate	Male	Female	Total
<b>Government</b>	2,591	3,315	<b>5,906</b>
<b>UNRWA</b>	2,230	1,983	<b>4,213</b>
<b>Private</b>	985	759	<b>1,744</b>
<b>Grand Total</b>	<b>5,806</b>	<b>6,057</b>	<b>11,863</b>

*Source: MOEHE, 2012.*

There is a shortage of classrooms in Jericho Governorate, and many schools operate on a double-shift system. In terms of class size, in the governmental sector there are on average 24.9 students per class, whereas in UNRWA run schools there are 34.5 students per class, and in the private sector there are 28.1 (MOHE, 2012) (See Table 12).

*Table 12: Distribution of classes in the Jericho Governorate by supervising authority and gender, 2011/2012*

Supervising authority in Jericho Governorate	Male	Female	Co-education	Total
<b>Government</b>	70	90	77	<b>237</b>
<b>UNRWA</b>	23	16	83	<b>122</b>
<b>Private</b>	1	7	54	<b>62</b>
<b>Grand Total</b>	<b>94</b>	<b>113</b>	<b>214</b>	<b>421</b>

*Source: MOEHE, 2012.*

<sup>5</sup> Source: Report by the Palestinian Central Bureau of Statistics; Palestinians at the end of 2011.



## 2.5. Health Status

As of 2010 there were 19 health care centers in Jericho Governorate, 58 % of these being run by the governmental sector (See Table 13). There is also one governmentally run general hospital, which has 54 patient beds (MOH-PHIC, 2010). However, most of these are located in Jericho city, and people from small and distant villages face great difficulties in reaching these health facilities.

*Table 13: Distribution of Public Health Care Centers in Jericho, 2010*

Providers				Population per Center
MoH	NGOs	UNRWA	Total	
11	4	4	19	2,391*

\*This is on the basis of 2010 MOH data which puts the total population of Jericho at 45,433.

*Source: MOH-PHIC, 2010.*

As for medical staff in the Governorate, data is only available for the governmental sector. Table 14 shows the numbers of health care staff (2010) in the one MoH (Ministry of Health) run hospital.

*Table 14: Number of health care staff in the Jericho Governorate's Public Health Care Centers, 2010*

Health care specialization	Number of health care staff
General physician	12
Specialist physician	2
Dentist	1
Pharmacist	3
Nurse	21
Midwife	2
Paramedic	11
Administration	38
<b>Total</b>	<b>90</b>

*Source: MOH-PHIC, Annual Health Report, Palestine- 2010.*

Statistics in 2010 showed that the Infant Mortality Rate (IMR) in Jericho Governorate has declined to 0.68 %. The average IMR in the West Bank reached 1.22% in 2010, making Jericho's rate just below this regional average (See Table 15).

*Table 15: Infant mortality rate in Jericho Governorate (2010)*

Live Births	Infant Deaths					Infant Mortality Rate %
	Male	%	Female	%	Total	
2199	8	1.01	7	0.88	15	0.68

*Source: MOH-PHIC, Annual Health Report, Palestine- 2011.*

The final results of the PCBS's Population, Housing and Establishment Census of 2007 showed that the number of persons in Jericho Governorate who have at least one disability was 1,876. See Table 16 for the number of people with special needs, disaggregated by type of difficulty.

Table 16: Number of people with special needs in the Jericho Governorate by type of difficulty, 2007

Sex	Type of Difficulty					Total with Disability	Not Stated
	Communication	Cognition	Moving	Hearing	Visual		
Male	133	150	323	235	480	951	632
Female	95	98	355	236	531	925	576
<b>Total</b>	<b>228</b>	<b>248</b>	<b>687</b>	<b>471</b>	<b>1011</b>	<b>1876</b>	<b>1200</b>

Source: PCBS. 2009. 'Population, Housing and establishment, Census -2007, Final Results.'

## 2.6. Poverty and Food Insecurity:

To understand the causes behind deteriorating livelihood conditions in Jericho, various economic, demographic, agricultural, nutritional, health, environmental, and food-security issues should be considered. The basic causes of food insecurity translate into underlying and immediate causes of poverty and food scarcity at the household level. These causes include limitations on food availability, negative effects on agricultural production and food trade/market supplies, insufficient economic access to food, artificially high prices but few opportunities to secure employment, lower household incomes, impaired food utilisation poor water, poor sanitation, poor hygiene, a lack of access to health care, and a declining quality of diet.

Due to strict measures and difficult economic conditions as well as natural crises such as drought and limited water resources, the economic status of Jericho Governorate is deteriorating. Approximately 17.3% of Governorate households were found to be food-insecure during the second trimester of 2009, in comparison to 25% across the West Bank (WFP/ARIJ, 2010). This represents nearly 7,321 food-insecure people, with another 4,528 persons who are vulnerable to food insecurity (10.7%). In addition, 16,293 persons are marginally secure (38.5%) with just 33.5% of the Governorate being classified as 'food secure' (See Figure 2 below). Food-insecure households in Jericho Governorate are unable to secure sufficient income to meet their essential food and non-food requirements<sup>6</sup> mainly due to the lack of income-earning possibilities. This status causes families to decrease their intake of food items in terms of both quality and quantity, which has been worsened by the impoverishment process that started in 2000.

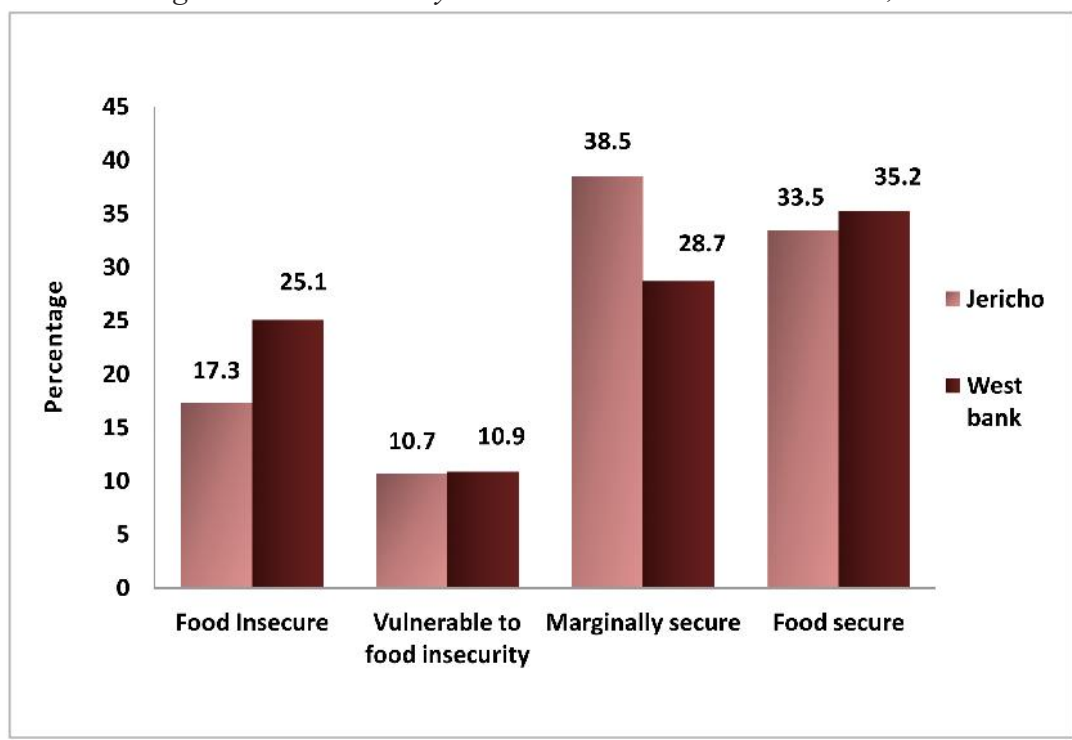
In terms of Jericho's food security status in comparison to other Palestinian regions, the percentage of food insecure persons in the Governorate is low in relation to other West Bank areas (it has the third-lowest food insecurity levels of the 11 other West Bank Governorates) (WFP/ARIJ, 2010). However, what is of definite concern is the fact that Jericho's percentage of persons deemed to be 'marginally secure' to food insecurity is the second highest across all West Bank districts, meaning that if the food security problems facing the region are not addressed now with long term plans for securing food options and availability to Jericho residents, the number of food insecure persons could drastically rise, bringing a host of problems causally connected to food insecurity (poverty, health problems- commonly anemia, malnutrition- food scarcity etc).

According to a survey done by WFP, FAO and PCBS in 2010, the Middle West Bank including Jericho, Jerusalem and Ramallah Governorates had the lowest food insecurity levels at 13%, showing a 7% decline in levels of food insecurity since 2009 (WFP/FAO/PCBS, 2011). It is worth noting that calculating food insecurity levels for the three Governorates together gives an inaccurate picture for

<sup>6</sup> Households with income and consumption below 1.6\$/capita/day and Households showing a decrease in total, food and non-food expenditures, including households unable to further decrease their expenditure patterns- according to World Food Program (WFP) classification 2009.

Jericho Governorate, since Ramallah and Jerusalem Governorates are experiencing better economic growth due to the consumer-led economy based on government spending with the support of external assistance. However, Jericho Governorate relies more on a productive economy (i.e. agriculture). This could account for such a low level in food insecurity in Jericho Governorate in 2010.

Figure 2: Food security levels in the Jericho Governorate, 2009



Source: WFP/ARIJ, 2010

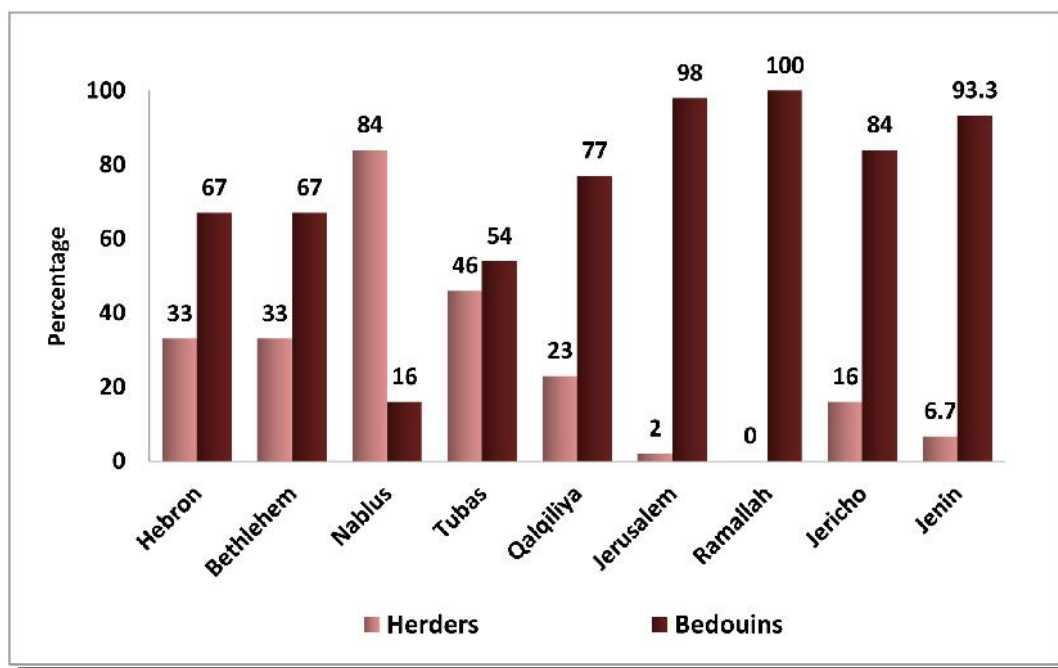
The current geo-political restrictions, significant increases in food prices, shrinking incomes and high unemployment rates have jeopardized household economy and led to heavy indebtedness and changes in eating habits. Previously self-reliant families are increasingly falling into the poverty trap and are unable to escape from their situation in the absence of job opportunities. Unemployment reached 13.3% in Jericho in 2011 (in comparison to 17.3% for the West Bank), where the daily nominal wage is NIS 79.7 per day per capita, in comparison to the average of NIS 85.0 across the West Bank region. Therefore, although unemployment is lower than the regional average, the daily wage also is significantly lower; more of the population are working but in lower-paid positions (PCBS, 2012a).

In addition, 51% of the Jericho population are unpaid family members (i.e. housewives) and it is also worth noting that 19.8% of employed persons work in Israel/Israeli settlements (PCBS, 2012b).

Furthermore, the PCBS's 2007 statistical census showed that Jericho Governorate has a large average family size (6 persons per household) in comparison to other West Bank Governorates; the average across the West Bank in 2007 was 5.5 persons per household. These large families increase food consumption and household expenses. According to the WFP (World Food Program), in 2009 the Jericho wealth index quintiles showed that the poorest quintile comprised 22.4% of the total population in Jericho, in comparison to 19.5% in the West Bank, indicating the level of poverty at Governorate level (WFP/ARIJ, 2010). In addition, the percentage of households with poor food consumption rate in Jericho Governorate reached 8.9% in 2009, in comparison to 10.2% across the West Bank (WFP/ARIJ, 2010).

Significant parts of the population particularly affected by food insecurity are Bedouin or ‘herding communities’ in Area C regions of Jericho Governorate. A recent UNRWA/UNICEF report stated that ‘As territorial fragmentation continues in the West Bank herding communities living in Area C face increasing movement restrictions, limiting their access to range land and natural water resources. The Israeli occupation, expansion of illegal settlements, and displacement of Palestinian communities over the past decade, combined with drought, have forced Bedouin and herding communities in Area C to rely on bought fodder and tanked water, which is unsustainable. Livelihoods are under threat and families are struggling to meet their dietary needs’ (UNRWA/UNICEF, 2010). Given the large number of Bedouin and nomadic communities existing in Jericho, particularly Area C regions of the Jordan Valley, this is a significant problem facing local Palestinian citizens in this area. Figure 3 shows the percentage of Bedouin and Palestinian Herders at Governorate level, showing how Jericho compares to other West Bank regions:

Figure 3: Bedouins and Palestinian herders by governorate level (%)



Source: UNRWA/UNICEF, 2010

Food price increases have significantly worsened the food-security situation of households in the Jericho Governorate, as a high share of household expenditures (53%) goes toward food (WFP/ARIJ, 2010). Between 2005 and 2009-9, the percentage of change of average food prices in the West Bank was a staggering 44.5%, with the majority of households feeling this increase most significantly between 2007 and 2009 (WFP/ARIJ, 2010). Between 2005 and 2009 the price of several food commodities, prominently rice, flour, lentils, and red meat, significantly increased across the West Bank by 80.9%, 73 %, 55.5% and 45.7% respectively, negatively affecting consumers in Jericho Governorate (PCBS,WFP/FAO, 2005-2009).

Palestinians are increasingly being forced to rely on negative coping mechanisms in their fight against poverty and instability. The combination of decreased incomes and increased food prices has forced poorer households to change their food consumption patterns. Up to 45% of Jericho Governorate residents reduced their food expenditure as a main coping strategy against food insecurity, forcing these families to buy fewer food items and to substitute normal foods with cheaper/less desirable items (PCBS/WFP/FAO, 2009). The strategy of food reduction, mainly regarding the quantity of meat purchased/consumed, was adopted by 42.7% of Jericho Governorate. Many households

(36.2%) in Jericho chose to consume less food as a coping strategy against food shortage and rising food prices.

It is noted that even if such coping mechanisms are reversible (e.g., switching to less preferred but cheaper food, decreasing the amount of food consumed, forgoing health or education expenditures, and purchasing food on credit), they can have a permanent cost on lives and livelihoods through poorer health and nutritional status. In addition, many Palestinians are also having to rely upon international or national assistance in terms of food security solutions, given that humanitarian assistance is a proven crucial complement to households' own coping strategies. This intervention, however, does not always assist Palestinians in being able to produce and implement their own methods for combating food scarcity/rising food prices and bringing themselves to a position of permanent/ long-lasting food security. This is especially significant because it was found that 31.6% of families in Jericho received some form of livelihoods assistance in 2009. Of these, 80% received aid in the form of food (WPF/FAO/PCBS, 2009).

As a consequence, children are the sector of society most adversely affected by malnutrition. Poor environmental conditions may increase infections and contribute to environmental deficiencies in micronutrients. Additional factors include unemployment, the poor economic situation, and food insecurity changes in household food consumption patterns, with reduced amounts of animal products, vegetables, and fruits. This contributes to a decrease in the amount of minerals and vitamins ingested. The effects of malnutrition on individuals can result in micronutrient deficiencies in young children, which are known to delay growth. Iron deficiency anaemia<sup>7</sup> affected approximately 65.8% of children (aged under 3 years old) and 32.7% of pregnant women (tested in their first antenatal appointment) in Jericho Governorate in the first quarter of 2011, compared to 46.8 % and 27.9 % respectively across the West Bank (MoH, 2011). The malnutrition statistics for the Governorate are also of concern. In 2009, 6.4% of children were classified as 'underweight<sup>8</sup>', with 3.7% in the 'Wasted<sup>9</sup>' children category with 14.7% being classified as 'stunted<sup>10</sup>' in growth (WPF/FAO, 2009).

The climate of the Jericho Governorate ranges from arid to semi-arid with an increase in aridity towards south and eastern locations. Summers in Jericho Governorate are hot and dry, while the quantity of mean rainfall varies from year to year. The mean annual rainfall registered for 2011 was 159.4mm, with an average humidity of 49.17% (ARIJ, 2011a). In 2011, the yearly rainfall substantially differed from localities in Jericho governorate- there being the highest rainfall at 191.76 mm in Az Zubeidat region, whilst the lowest was calculated at 98.19 in Deir Hajla. The mean annual rainfall for 2011 was lower than average at 143.5mm (ARIJ- GIS Unit 2011a). However, given the general (and expected) scarcity of rain water supply in Jericho, drought technology has been implemented in agricultural production in a way that allows for successful crop and animal cultivation through irrigated land practises, rather than rain-fed agriculture. However, this is itself not without problems, given the numerous financial, political and administrative problems faced by the water sector in Jericho (see Section 3.4- Water Resources). In terms of rainfall and its effect on food consumption, subsistence farming is greatly affected by rainfall shortages, given the reliance on rain-fed agricultural practises as a household level solution to food insecurity (it is more difficult and costly to irrigate lands at a subsistence level).

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7 Anaemia is a condition in which haemoglobin is less than normal; the recommended dietary allowances of iron are 15mg a day for women and 10mg for men.

8 'Weight for Age' of children under 5 years= > 2SD

9 'Weight for Height' of children under 5 years= > 2SD

10 'Height for Age' of children under 5 years= >2SD

Additionally, Jericho Governorate is facing water scarcity especially during the summer. The privately owned and managed Israeli Mekorot water company supplies a large quantity of drinking water to the Governorate. The quantity of water purchased from this source for domestic use in Jericho and Al Aghwar (2010) was approximately 1.8 MCM (Million Cubic Meters). This was set at a cost of 2.4 NIS/cubic meter, making the costs of water high for many families and communities (PWA, 2011). All these factors are limiting the wealth and livelihoods of the people, deepening the poverty of marginalized people and increasing the vulnerability of Palestinian households.

***PART THREE:***  
***Agricultural & Environmental Status in***  
***Jericho Governorate***

### 3.1. Land Use/ Land Cover

The Palestinian agricultural sector serves a population of approximately 3.8 million persons (PCBS, 2009a), acting both as an economic base and as the main source of food for many Palestinians. During the past eleven years, the agricultural sector in the occupied Palestinian territory has proven itself to be the most appropriate sector for dealing with emergencies erupting as a result of the extreme Israeli measures carried out against the Palestinian people during the Second Palestinian Intifada of 2000. Economic shocks from the Intifada, such as rising unemployment, restrictions in economic and labor markets and freedom of movement resulted in a widespread increase in both 'poverty' and 'deep poverty' levels in the region (Ajlumi, 2003). As a result, agricultural practices have acted as a remedy to these problems, aiding Palestinians to grow their own food and avoid falling into deeper poverty or suffering from food insecurity.

The PCBS and MoA conducted a recent (2011) survey which calculated the total area of agricultural lands in the oPt as 1,207,061 dunums, of which 1,105,146 are found in the West Bank and 101,915 in the Gaza Strip. The type of survey undertaken was mainly based on a certain definition for the size of agricultural holdings, pertaining only to physical agricultural areas and not seasonal ones<sup>11</sup>. Compared to 2008 when the total agricultural area for the oPt was registered at 1.854 million dunums, this research shows there has been a decrease of 646,939 dunums of agricultural lands. Compared to this however, ARIJ's 'GIS Unit, 2011' analysis for agricultural areas in 2010 showed that the West Bank's total agricultural area was 2,150,800 dunums (ARIJ, 2011a). This difference is due to the fact that PCBS and MoA surveyed the 'actual' agricultural lands (as according to the aforementioned methodological classification), whilst dismissing fragmented small size agricultural lands dominant in urban areas and in certain spaces where springs are located. ARIJ's surveying discovered a high percentage of small and fragmented ownership lands (family cultivations) across the oPt. This means an additional 1,045,654 dunums of small land ownerships could be added to the PCBS and MoA official 2010 agriculture survey.

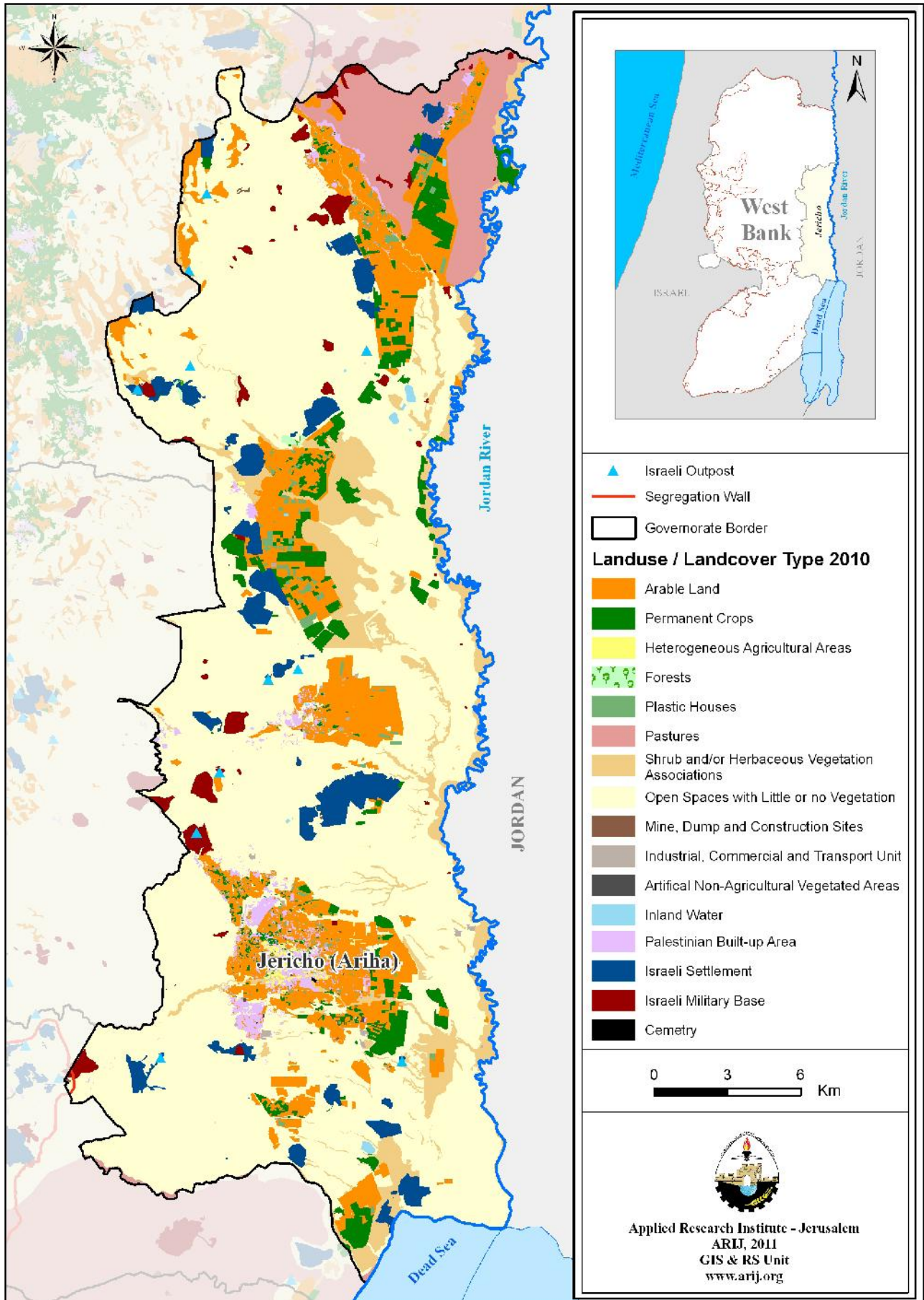
In Jericho Governorate, as of 2010, 37.8% of the total labor force (male and female) work in agriculture, in comparison to the average across the West Bank of 11.8% (PCBS, 2011a). Agriculture is therefore clearly an important industry in Jericho, given its dominance over the local labor force and its role in providing food solutions for many needy families and communities there. The total area of the Jericho Governorate is estimated to be 592,815 dunums with nearly 106,056 dunums of agricultural land, of which 27,222 dunums are permanent crops, 75,033 are seasonal crops, and 3801 are classified as 'protected agriculture' (ARIJ- GIS Unit, 2008) (See Table 17 and Map 6). The Palestinian National Authority (PNA) and key international players recognize the importance of the agricultural sector in supporting both the Palestinian economy and individual livelihoods, and as such have recently formulated a National Development Plan for 2011-2013. This has the stated vision of "Establishing the State and Building our Future", where the agricultural sector has been defined as the 'agriculture and rural development sector', with allocated budgets (of total development expenditures) for the years 2011, 2012 and 2013 of US \$34.2, \$60.7, and \$83.0 million, respectively.

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<sup>11</sup> The survey only registered land < half a dunum as agricultural holding for 'irrigated lands' and those with an area equal to one dunum < are considered to be a 'rain-fed' holding).



Map 6: Land use / Land cover in the Jericho Governorate and Segregation Wall Route, 2010



Source: ARIJ – GIS Unit, 2011a.

Table 17: Land Use/ Land Cover in the Jericho Governorate, 2010

Type of Land Use/ Land Coverage	Area in Dunums*
Agricultural land	106,056
Artificial non-agricultural vegetated areas	78
Forests	369
Industrial, commercial and transport unit	937
Inland water	981
Mine, dump and construction sites	159
Open spaces with little or no vegetation	362,748
Pastures	31,022
Shrub and/or herbaceous vegetation associations	48,694
Cemetery	28
Israeli Military Base	9,101
Israeli Settlements	23,008
Palestinian Built-up Area	9,631
Wall zone	2
<b>Total</b>	<b>592,815</b>

\*Dunum = 1,000 m<sup>2</sup> = 0.1 Hectare

Source: ARIJ – GIS Unit, 2011a.

It is worth mentioning that the allocated budgets by government and/or donors for agricultural development are very limited and do not respond to the real needs of this vital sector. For example, of the total expenditure in all sectors, donors have spent less than 1% in supporting agriculture in Palestine. Even through the ‘Consolidated Appeal Process (CAP)’, the agricultural sector only received 22% of the sector-appealed budget for 2010. However, statistics have demonstrated that the agricultural sector in Jericho is of high importance, in terms of economic performance, providing sustainable food solutions and continuing the farming culture of many local communities. There is a need for Jericho Governorate, as one of the largest agricultural producers in the Palestinian territory, to be supported by both the PNA and relevant international groups in terms of sustaining the currently effective areas of the agricultural sector and developing weaker components. This will have a positive impact on the economy of Jericho, the livelihoods of many individuals and families, poverty and food security levels in the region.

In terms of adequate irrigation supply for crop production and other agricultural activities, Jericho suffers severe problems in the availability of needed irrigation methods and technologies. Of all the West Bank and Gaza Governorates, Jericho Governorate has the fewest effective working irrigation methods. Table 18 below details the number of plant and mixed holdings in the Governorate by main source of irrigation.

Table 18: Number of plant and mixed holdings in Jericho Governorate by main source of irrigation, 2010

Main Source of Irrigation	Number of plant and mixed holdings
Rainfed	10
Artesian wells	360
Streams and valleys	3
Dug well	6

Main Source of Irrigation	Number of plant and mixed holdings
Tanks, ponds and collective well	61
Springs	156
Public network	122
Tanks	9
Other sources	8
Not stated	47
More than 1 source of irrigation	26
<b>Total</b>	<b>808</b>

Source: PCBS, 2011b.

The size of agricultural holdings in Jericho also provides an interesting perspective on the state of the agricultural sector and its relationship with food security in the region. Data provided by the PCBS shows that the majority of agricultural holdings in Jericho are small in size, indicating a household or small community cooperative level of production (See Table 19). This shows that many individuals and families in Jericho rely on self or local community-level agricultural production to feed themselves.

Table 19: Area of Agricultural Holdings in Jericho Governorate, 2010.

Area Group of Holding (in Dunums)	Units of Agricultural Holdings
Up to 2.99	954
3 – 5.99	113
6 – 9.99	77
10 – 19.99	109
20 – 29.99	76
30 – 39.99	57
40 – 49.99	56
50 – 59.99	30
60 – 69.99	22
70 – 79.99	10
80 +	108
<b>Total</b>	<b>1,612</b>
<b>Average of holding size in dunum</b>	<b>24.94</b>

Source: PCBS, 2011b.

### 3.2. Agricultural Activities

Agriculture is one of the most important economic pillars in Palestine, as well as being an integral part of Palestinian history, culture, and identity. Agriculture has become a symbol of the Palestinian people's fight to protect their lands from confiscation, and is the sector that hosts the refugee laborers from other sector during political conflicts and economic crisis. Jericho Governorate contributes 6.45% of the total value of agricultural production across the Palestinian Territory (PCBS, 2009g).

In addition, the type of agriculture practiced in the Jericho Governorate varies according to region, but in general can be divided into two groups, plant (both rain-fed and irrigated) and livestock production.

### 3.2.1. Plant Production

The total cultivated area in Palestine is usually categorized into ‘Fruit Trees’, ‘Vegetables’, and ‘Field Crops and Forages’. As of 2010, nearly 100% of the entire area of plant production was classed as ‘irrigated’ (only 10 dunums were registered as rain-fed areas for cultivation).

According to the PCBS, the total area of plant production in Jericho Governorate in the agricultural year 2007/2008 was 49,272 dunums with a total plant production of 108,831 tons, creating a total value of US \$72,487. Compared to the year 1997/1998, we notice an increase of approximately 34 % of the total planted area, a 36.4% increase in total production, and a 56% increase in the total production value (PCBS, 2009d).

Furthermore, irrigated agriculture largely dominates Jericho’s agricultural sector, forming nearly 100% of the cultivated area in the year 2010, with all but 10 dunums of 49,272 dunums of agricultural lands in Jericho being irrigated through the rain-fed method. According to the PCBS’s 2010 Agricultural Census, the total area cultivated with vegetables in the Palestinian Territory during the agricultural year 2009/2010 was 127,257 dunums: 100,579 dunums in the West Bank and 26,678 in the Gaza Strip. Jericho and Al-Aghwar Governorate had the greatest amount of vegetable cultivated areas with 20.7% of the total area cultivated with vegetables in the Palestinian Territory (PCBS, 2011b).

As previously mentioned, agriculture in Jericho Governorate is mainly dependent on irrigated methods, which requires good water availability, water systems and competent water management plans. All of these crucial components are vulnerable to the current political and administration conditions. Israel controls the quantity of water available to Palestinians as well as taking the major part of Palestinian water rights to irrigate Israeli settlements in the West Bank, while the Palestinians are responsible for managing and distribution the water allocated by Israel and maintaining adequate water supply networks. Currently, irrigated agriculture covers approximately 12% of cultivated lands in the oPt and uses about two-thirds of Palestinian water resources whilst contributing a gross output of around \$500 million annually. To sustain this viable sector, coping plans and strategies should be developed to mitigate the impact of negative Israeli occupation practices and improve Palestinian water authority policies and management procedures. Thus, the Palestinian water authority should be encouraged to practice good governance and to develop funding plans for better water systems, infrastructure, monitoring systems, practicing water sector strategies in terms of effective supply and distribution.

*Photo 1: Plant Production in Jiftlik Village*



*Source: Photo courtesy of ARIJ, 2012*

## Fruit Trees Production

During the 2007/2008 season, the total cultivated area of fruit trees in Jericho Governorate reached 6,903 dunums, of which 45.2 % were un-bearing. 100% of the areas cultivated with fruit trees in the Jericho Governorate were irrigated. The total value of agricultural production for 2008 in Jericho was US \$88,191,000, contributing 6.46% of the total revenue produced from agricultural production during the same year. The value added total for agriculture production in Jericho stood at US\$63,497,000 for the years 2007/8, which equates to 7.2% of the Palestinian territory total value added<sup>12</sup> cost during the agricultural year 2007/2008, which amounted to US\$ 876.2 million (PCBS, 2009g).

The total production of fruit trees reached 8,792 tons with a total value of US \$7,724, 000. Banana production constituted most of the total fruit production, accounting for 58.23% of fruit tree areas in the Jericho Governorate, followed by dates at 14.68%. Compared to 1997/1998, one notices a 32.2% decrease in the total area of land being used for the cultivation of fruit trees<sup>13</sup>. In addition, the total amount of fruit being produced from cultivation in Jericho has also noticeably declined from 1997/8 by 17585 tonnes. Furthermore, there has been a resultant decline in the value of fruit tree production in Jericho, from an annual total of US \$ 1,2154,000 in 1997/8 to US \$7,724,000 by 08/09; representing a reduction of 36.4% (PCBS, 2009g)

Table 20: Area, yield and production of fruit trees in the Jericho Governorate by crop and type, 2007/2008

Crop	Bearing				Un-bearing		Total Area	Production
	Rainfed		Irrigated		Rainfed Area	Irrigated Area		
	Area	Yield	Area	Yield				
Date	-	-	1291	1,000	-	2166	3457	1291
Banana	-	-	1280	4,000	-	400	1680	5120
Lemon	-	-	409	2,000	-	230	639	818
Shamoty Orange	-	-	224	2,000	-	100	324	448
Grape	-	-	311	2,500	-	-	311	778
Clement	-	-	45	1,500	-	45	90	86
Navel Orange	-	-	53	2,000	-	35	88	106
Olive	-	-	85	2,500	-	-	85	21
Pomegranate	-	-	-	-	-	80	80	-
Mandarin	-	-	26	2,000	-	23	49	52
Poppy	-	-	22	1,500	-	17	39	33
Bomaly	-	-	17	1,500	-	14	31	26
Grapefruit	-	-	10	1,500	-	-	10	15
Valencia Orange	-	-	3	1,500	-	5	8	5
Balady Orange	-	-	7	1,500	-	-	7	11
Francaawy Orange	-	-	-	-	-	5	5	-
<b>Total</b>	-	-	<b>3783</b>		-	<b>3120</b>	<b>6903</b>	<b>8792</b>

Area: Dunum, Yield: Kg/Dunum, Production: metric tons

Source: PCBS, 2009g.

<sup>12</sup> For the preparation of this report, value-added is calculated on the basis of agricultural year, which extends from 01/10/2007 until 30/09/2008 (PCBS,2009f)

<sup>13</sup> From 9215 Dunums in 1997/98 to 6903 in 07/08.

As shown in Table 20, date and banana trees are the most highly-cultivated fruit trees in Jericho Governorate. All fruit is produced on irrigated lands, given the climatic problems with utilizing rain-fed agricultural technology in the region.

### **Vegetables Production**

Results from the agricultural year 2007/2008 indicated that approximately 36,931 dunums of cultivated land were used for vegetable production in Jericho, comprising 19.85% of the total area of cultivated lands for vegetable production in the Palestinian territory. In addition, regionally, vegetable production is by far the largest agricultural market in Jericho, as it makes up just over 75% of all cultivated agricultural produce in the Governorate (PCBS, 2009g). Of the cultivated areas used for vegetable production, 100% occurred on irrigated lands, with no rain-fed agricultural lands or greenhouses. The total production of vegetables in 2007/8 reached 97113 tons with a total value of US \$ 63,265.

Compared to 1997/1998, one can see an increase of 54% in the total area planted with vegetables, no increase in the total area of greenhouses, a 92% increase in total production, and (approximately) an 88.7% increase in the total production value.

In terms of type of production, eggplants, tomatoes, and squash are the main crops of vegetables produced, comprising 57.1% of the total vegetable cultivated areas in the Jericho Governorate. Table 21 shows vegetable production in the Jericho Governorate.

Table 21: Area, yield and production of vegetables in the Jericho Governorate by crop and type, 2007/2008

Crop	Production	Total Area	Surface tunnel		French tunnel		Plastic houses		Irrigated		Rainfed	
			Yield	Area	Yield	Area	Yield	Area	Yield	Area	Yield	Area
Squash	15,917	10,611	-	-	-	-	-	-	1,500	10,611	-	-
Egg-Plant	29,564	5,912	-	-	-	-	6,000	4	5,000	5,908	-	-
Maize	5,130	5,130	-	-	-	-	-	-	1,000	5,130	-	-
Tomato	20,540	4,580	-	-	8,000	3	18,000	308	3,500	4,269	-	-
Cucumber	11,471	2,145	-	-	12,000	4	12,000	782	1,500	1,359	-	-
Kidney Bean (Green)	1,555	1,698	2,000	4	-	-	2,000	278	700	1,416	-	-
Jew's Mallow	2,691	897	-	-	-	-	3,000	30	3,000	867	-	-
Paprika	2,059	885	3,000	2	-	-	3,000	287	2,000	596	-	-
Cauliflower	1,768	884	-	-	-	-	-	-	2,000	884	-	-
Broad Bean (Green)	404	808	-	-	-	-	-	-	500	808	-	-
White Cabbage	1,578	789	-	-	-	-	-	-	2,000	789	-	-
Okra	286	572	-	-	-	-	-	-	500	572	-	-
Snake Cucumber	722	481	-	-	-	-	-	-	1,500	481	-	-
Pumpkin	227	453	-	-	-	-	-	-	500	453	-	-
Hot Pepper	870	434	3,000	2	-	-	-	-	2,000	432	-	-
Others	1,240	155	-	-	-	-	8,000	155	-	-	-	-
Water Melon	560	140	-	-	-	-	-	-	4,000	140	-	-
Kidney Bean (Yellow)	96	137	-	-	-	-	-	-	700	137	-	-
MuskMelon	360	90	-	-	-	-	-	-	4,000	90	-	-
Gourd	0	80	-	-	-	-	-	-	0	80	-	-
Spinach	75	50	-	-	-	-	-	-	1,500	50	-	-
<b>Total</b>	<b>97,113</b>	<b>36,931</b>	<b>8,000</b>	<b>8</b>	<b>30,000</b>	<b>7</b>	<b>46,000</b>	<b>1,844</b>	<b>37,400</b>	<b>35,072</b>	<b>-</b>	<b>-</b>

Area: Dunum, Yield: Kg/Dunum, Production: metric tons

Source: PCBS, 2009g.

## Field Crops and Forages Production

In the 2007/2008 agro-production season, all lands used for agricultural purposes were shown to be irrigated as opposed to rain-fed. This is due to the drought conditions experienced in the region, coupled with the lack of adequate drought mitigation technology. The total production of field crops and forages reached 2,926 tons with a total value of US \$1,498,000. By 2010, however, there was a small change in the area of lands being used for agro-production, with 812.55 dunums being classified for this purpose (PCBS, 2011b).

Compared to the year 1997/1998, there was an increase of approximately 52.9% in the total area planted with field crops and forages; we notice an increase of approximately 2.7% in the total production, accompanied by a 91.3% increase in the total production value.

Potato production made up 43.2% of the total field crops and forages area of Jericho, with wheat classified as the second largest produced crop, at 32.8% (See Table 22).

Table 22: Area, yield and production of field crops and forages in the Jericho Governorate by crop and type, 2007/2008

Crop	Rainfed		Irrigated		Total Area	Production
	Area	Yield	Area	Yield		
Wheat	-	-	3,200	300	3,200	960
Barley	-	-	990	300	990	297
Clover	-	-	730	40	730	29
Potato	-	-	316	4,000	316	1,264
Sern	-	-	109	40	109	4
Dry Onion	-	-	93	4,000	93	372
<b>Total</b>	-	-	<b>5,438</b>	<b>8,680</b>	<b>5,438</b>	<b>2,926</b>

Area: Dunum, Yield: Kg/Dunum, Production: metric tons

Source: PCBS, 2009g.

### 3.2.2. Livestock Production

The total production of livestock in Jericho Governorate during the agricultural year 2007/2008 reached 1,711 tons of meat (red and white), 5,945 tons of milk, 2 million eggs and 13 tons of honey (PCBS, 2009f).

The value of livestock production in Jericho Governorate during the agricultural year 2007/2008 registered approximately US \$15,704, having decreased by 8.3% compared to the year 1997/1998 (PCBS, 1998). The contributions of different sectors to the total livestock production value of the Jericho Governorate were as follows: 57.24% meat, 39.14% dairy, 1.4% eggs, 1.08% honey and 1.13% in the 'other livestock' category. It is noted that there is no fish production in Jericho.

Compared to the year 1997/1998, there was a decrease of approximately 11.8% on the total production value of meat (red), an increase of 14.6% on the total production value of milk, and an increase of 98.2% on the total egg production value. Additionally, there was an 86.7% decrease in the production value of honey (PCBS, 1998).



## Cattle Production

The total number of cattle in the Jericho Governorate during the agricultural year 2007/2008 was 870 heads, with a total value of production (meat & milk) of approximately US \$1,970 (PCBS, 2009g). Compared to 1997/1998, there has been a 5.4% reduction in the total number of cattle farmed in Jericho. However, there has been a 4.5% increase in the value of cattle since 1997/8 (PCBS, 1998; PCBS, 2009g). Cattle production, when compared to other agricultural activities, is not a large industry in Jericho, as it constitutes just 28.2% of livestock production across the Governorate and 2.15% of the total cattle production in Palestine.

Table 23 compares the total number and type of cattle farmed in Jericho Governorate and the whole Palestinian Territory.

Table 23: Number of cattle by strain, sex and age in the Jericho Governorate compared to the total in the Palestinian territory, 2007/2008

Type of cattle farmed in Jericho Governorate		Region	
		Jericho	Palestinian territory
Local cattle	Cows	100	2,910
	Calves	50	918
	Heifer	28	638
	Bulls	12	185
	<b>Total Local Cattle</b>	<b>190</b>	<b>4,651</b>
Friesian cattle	Cows	343	16,504
	Calves	189	7,141
	Heifer	139	4,310
	Bulls	9	380
	<b>Total Friesian Cattle</b>	<b>680</b>	<b>28,335</b>
<b>Total no. of cattle</b>		<b>870</b>	<b>32,986</b>

Source: PCBS, 2009g.

The total number of cattle in Jericho in 2010 was 870 heads, recording the same number of heads as the year 2007/08 (PCBS, 2011b).

## Sheep and Goat Production

During the agricultural year 2007/2008 the total number of sheep and goats in Jericho Governorate reached 26,117 and 24,648 respectively. The total value of the production of sheep and goats combined (meat and milk) reached in 2008 approximately US \$12,346,000 (PCBS, 2009g).

Compared to 1997/1998, the number of sheep and goats in the Jericho governorate decreased by 22%; in addition, the values of meat and milk decreased by 5.54% and 10.9% respectively (PCBS, 1998). One can see that milk production has been far more affected in the past decade than meat production, and is now a declining industry in the Governorate by 39.77% (PCBS, 1998; PCBS, 2011b).

See Table 24 for types and numbers of goats and sheep in the Jericho Governorate and in the Palestinian territory.

Table 24: Number of sheep and goats in Jericho Governorate compared to total heads across the Palestinian territory, 2007/2008

Governorate	Goats			Sheep		
	Local	Other	Total	Local	Other	Total
Jericho	24,648	-	<b>24,648</b>	23,797	2,320	<b>26,117</b>
Palestinian territory	274,888	47,194	<b>322,082</b>	453,554	235,345	<b>688,899</b>

Source: PCBS. 2009f.

It is worth noting that sheep and goat numbers increased by 20.2% and 6.8% between 2007/08 and 2010. The total number of sheep reached 32,747 heads and the number of goats reached 26,450 heads in 2010 (PCBS, 2011d).

## Poultry Production

The total numbers of poultry in Jericho Governorate during the agricultural year 2007/2008 was 210,000 birds (10,000 Layers and 200,000 broilers), constituting just 0.69% of the total poultry production in the Palestinian Territory. The total value of poultry production (meat & eggs) stood at approximately US \$ 1,040,000 (PCBS, 2009g).

Compared to the agricultural year 1997/98, the number of laying poultry has dramatically increased by 66.6%, but with broiler bird production decreased by 54.8% (PCBS, 1998; PCBS, 2011d). In addition, there was a decrease of approximately 28.6% in the total production value of poultry, both layers and broilers.

Table 25 compares the total number of layer and broiler birds in Jericho Governorate and the Palestinian territory for the agricultural year 2007/2008.

Table 25: Number of broilers and layers in the Jericho Governorate compared to the total in the Palestinian territory, 2007/2008

Governorate	Poultry numbers in thousands	
	Layers	Broilers
Jericho	10	200
Palestinian Territory	2,695	27,682

Source: PCBS. 2009g.

It is worth noting that poultry numbers increased by 450% between 2007/08 and 2010. The total number of layers reached 430,000, and broiler numbers reached 726,000 in 2010 (PCBS, 2011b).

## Beehive Production

The total number of beehives in Jericho Governorate reached, in 2007/08, 4,364 (PCBS, 2009g). However, the total number of beehives in Jericho Governorate reached, in 2010, 2,975, which represents a 47.2% decrease since the agricultural year 2007/8.

Yet the total production value of the beehive industry in Jericho reached approximately US \$170,000, making up 5.92% of the total annual honey production value in the Palestinian territory for the year 2007/2008 (and 7.43% of West Bank production) (PCBS, 2009g) (See Table 26). Between 1997/98 and 2007/8, there was a 69.2 % decrease in the number of beehives and a 13.2% decrease in the total

production value of beehives in Jericho Governorate (PCBS, 1998; PCBS, 2009g).

*Table 26: Number of beehives in Jericho Governorate compared to the total for the Palestinian territory, 2007/08*

Region	Beehives		
	Modern	Traditional	Total
Jericho	4,364	--	4,364
Palestinian Territory	63,782	2,951	66,733

*Source: PCBS, 2009g*

In terms of available agricultural data for Jericho, the PCBS, in cooperation with the Palestinian Ministry of Agriculture (MoA), have produced a number of comprehensive yearly agricultural surveys for the Palestinian territory covering up to 2007/8. These use a number of base-line measures with a combination of agricultural/ socio-economic indicators to report on the agricultural, food security and economic status of the Palestinian territory, disaggregating data at a regional and Governorate level as far as possible.

Most of the information used in this section pertaining to agricultural statistics in Jericho has been taken from the last agricultural survey reporting session on the agricultural year 2007/8. This is due to the fact that this survey has the most comprehensive range of statistics covering multiple indicators at a Governorate and (where methodologically appropriate) gender disaggregated level, and production values. However, the PCBS has more recently produced an 'Agricultural Census' for the year 2010, which contains a range of statistical data relating to agricultural indicators for the West Bank and Gaza for 2010. In many places, information is presented at a Governorate level; thus, where this is available for Jericho, 2010 data from this census has been compared with the same indicators for 2007/8, to report on any changes in the sector during this period. It is worth noting that the 2010 statistics did not include the production value of agricultural sectors. Below is a matrix (Table 27) showing the available and relevant data for the years 2007/8 and 2010 pertaining to various agricultural measures.

*Table 27: Agricultural Data (selected indicators) for Jericho 2007/8-2010*

Indicator	2007/8 (Annual Survey)	2010 (Census)	Quantitative Difference
No of Holdings	808	1612	+ 99.5%
Total cultivated area (Trees, vegetables, Field Crops)	49,272*	36,277.68*	-26.37%
Cultivated Area of Fruit Trees	6903*	7007.15*	+ 1.51%
Average Holding Size	24.94	24.95	+0.04%
Rain Fed agricultural area	0*	10*	--

*\*in dunums*

*Sources: PCBS. 2011b, and PCBS. 2009g.*

As one can see, in the case of the selected indicators, there have been some notable changes during the selected time period (2007/8- 10). For example, one can observe a 99.5% increase in the number of agricultural holdings in the Governorate. However there has been a noticeably large decrease (26.37%) in the total cultivated area of trees, vegetables and field crops and a smaller increase in the cultivated areas of fruit trees (1.51%). In terms of the average holding size in the Governorate, this has remained relatively stable with an increase of less than 1% (0.04%) (PCBS, 2011b).

One particularly notable change that has taken place in Jericho's agricultural sector between 07/08 and 2010 is the newly adopted practice of cultivating produce on rain-fed lands. Although the area of land using rain-fed methods is still the smallest across the whole of the Palestinian territory (10 dunums), it is a promising improvement for the Governorate, which previously had no agricultural produce cultivated on rain-fed lands at all. Adopting measures which can utilize the rain fall in the region in an attempt to mitigate frequently experienced drought conditions is an important step towards developing more effective sustainable solutions for naturally cultivated agricultural production.

Furthermore, the optimization of water usage for irrigation is a key factor in conserving water resources. Crop diversification is an important method of improving the production calendar to meet market needs, to increase self-sufficiency, and to improve profitability for Jericho Governorate farmers. The unique climate conditions in the governorate mean that farmers can produce agro-commodities during the off-seasons of other areas. This added value should be utilized effectively to assist in improving the economic value of plant production in Jericho Governorate. Finally, due to water scarcity and existing intensive agriculture in the Jordan Valley, the groundwater has become saline and it is therefore important to research and introduce saline resistant crops to mitigate the impact of this problem.

### 3.3. Forests and Nature Reserves

The forested area in the Jericho and Jordan Valley area is a rich base for biological diversity since it is a habitat for diverse types of forests including diverse plant and animal species. There are almost 369 dunums of forested area in Jericho Governorate (ARIJ – GIS Unit, 2010) (See Map 6), comprising 0.5% of total forested area in the entire West Bank. In addition, there is a large area of shrubs and herbaceous vegetation cover in the Jericho governorate reaching up to 48,694 dunums. There is no recorded nature reserve managed and/or owned by the Palestinian Authority in the Jericho Governorate (ARIJ – GIS Unit, 2011) (See Section 4 - Geopolitical).

The 0.5% forested area is considered tropical and accessible forest for the Palestinians. However, there is another forested area near the Jordan River banks and the Dead Sea that is inaccessible for Palestinians. The inaccessible forest overlaps the mined area on the border between Israel and Jordan. Despite the limited size of forests in this area, the Jordan Valley and its semitropical environments recorded the second highest number of plant families among the different ecosystems in the West Bank. 92 plant families are growing in the Jordan Valley with the Najadaceae family growing only in this ecosystem (ARIJ, 2007). Thus, forests are playing a crucial role in landscape and green-coverage preservation and watershed protection in the oPt.

The Jericho plain valleys and the steppe hills towards the Dead Sea area and the Jordan River form unique topographic, climatic and edaphic conditions, providing a suitable environment for the growth of a variety of unique and endemic plant species. Jericho forests are characterised by their Sudanian Penetration Zone ecosystem, where the temperatures are high but water resources are available either from the river or springs. The climate in general tends to be semi-dry to dry going from west to east and north to south in the Governorate. Most of Jericho forests are located on fertile soil types (Alluvial and Brown soils, Calcareous Serozems, Brown Rendzinas and Pale Rendzinas and some Regosols) (ARIJ – GIS Unit, 2011), and distributed between Fassayil and Al Jiftlik localities, in addition to the Jordan River banks (inaccessible for Palestinians). Forests in the Jericho Governorate are mainly natural forests and enjoy the diversity of forest types since three types of forests are found including Jordan River Riparian forest, Dead Sea shore forest, and Tropical forest (ARIJ – GIS Unit, 2011).

The Riparian Forest is characterized by a diverse belts of plantation in reference to its distance from the river bank starting from hydrophytes belt (ex: *Populus eaphratic*, *Cyperus papyrus*, *Phragmites australis*, and *Juncus arabicus*), then Tamarisk species belt (ex: *Tamarix jordanis*), then Mediterranean saltbush species belt (ex: *Atriplex halimus*, and *Asparagus palaestinus*) and ending with *Prosopis farcata* and *Alhagi maurorum* belt, which includes a set of other tree and shrub species such as *Palanites aegyptiaca*, *Salvadora persica*, and *Ziziphus spina-christi*. The Dead Sea forest is located to the northwest of the Dead Sea and is a result of the meeting between fresh water from the Al Fashkha spring and salt water from the Dead Sea, forming a habitat of confined plantation of *Nitraria retusa*, Tamarisk species such as *Tamarix tetragyna* and *Tamarix deserti* and other dwarf shrubs. The tropical forest, on the other hand, is composed of scattered trees and shrubs concentrated mainly between Al Jiftlik and Fassayil areas including *Ziziphus Spina Christi*, *Palanites aegyptiaca*, *Calotropis procera*, and *Salvadora persica* (Abu A'yash . A., et-al. 2007).

Jericho forests are also a habitat for many wild animals including wild boar, hare, jerboas, snakes, lizards, hyrax, mongoose and many soaring birds and insects. There is a great and clear interrelationship among plant and animal life in Jericho Governorate.

All Jericho forested areas are governmental lands but are located within the Eastern Segregation Zone and in Area C, and are therefore under Israeli control and the MoA has no management authority (ARIJ – GIS Unit, 2011). It is worth noting that the Jericho forests are a well-known habitat for 41 endemic species and several endangered wild plants such as *Ficus pseudo syccamorus*, *Acacia radiana*, *A. negevensis*, and *A. tortillis*, where rare species in the Jordan valley form 88% of total rare species in the West Bank (ARIJ, 2007). Hence, further management and conservation are necessary to sustain this valuable natural resource.

### 3.4. Water Resources

The renewable water resources in Jericho Governorate consist primarily of groundwater resources, all of which are located in the Eastern Basin. In 2010, around 25 MCM were produced from the Eastern Basin from Palestinian springs and wells located in Jericho Governorate (PWA, 2011). There are 7 major springs in the Governorate, 5 of which are located in Jericho's center. Only two are utilized for both domestic and agriculture purposes, with the rest used only for agricultural activities (see Map 7). The estimated quantity of water discharged from these springs reached approximately 19.49 MCM in 2009, and decreased to 17.29 MCM in 2010 (PWA, 2011). Moreover, in 2010, 7.7 MCM were pumped from wells and used for agricultural purposes in Jericho & Al-Aghwar Governorate (PWA, 2011). Table 28 (below) shows Jericho springs and their discharge for the year 2009.

Table 28: Jericho springs' by name, locality, use and discharge rate in 2009

Spring Name	Locality	Use	Discharge (MCM)
Fasayil	Al Jiftlik	Agricultural	0.45
Al Dyuk	Jericho (Ariha)	Domestic and Agricultural	4.52
Al Nwai'mah	Jericho (Ariha)	Agricultural	2.12
Al Shusah	Jericho (Ariha)	Agricultural	0.75
Al Sultan	Jericho (Ariha)	Domestic and Agricultural	5.94
Al 'Auja	Al 'Auja	Agricultural	3.02
Al Qilt	Wadi Al Qilt	Agricultural	2.69
<b>Total</b>	-	-	<b>19.49</b>

Source: PWA, 2009

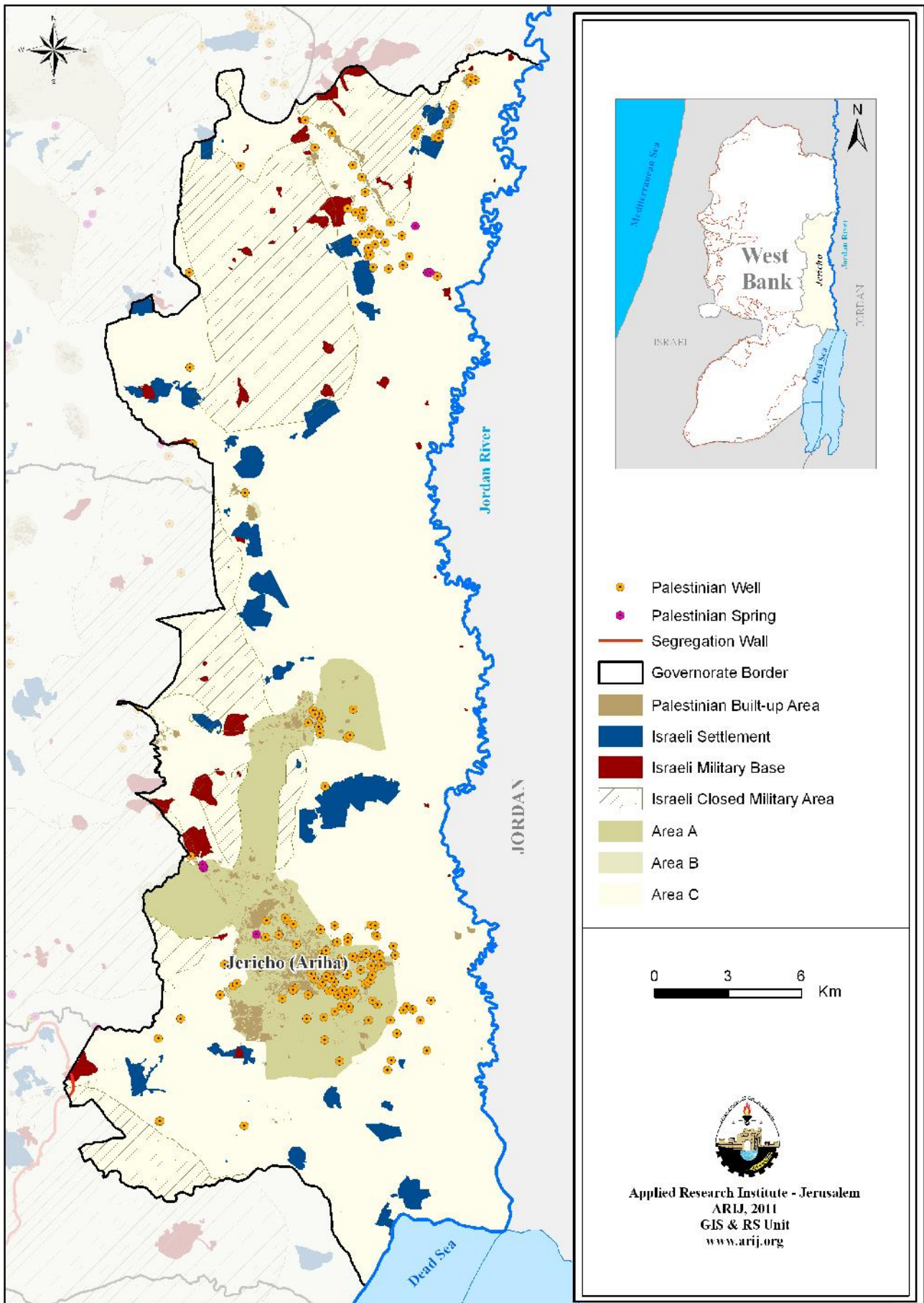
The most important spring in Jericho & Jordan Valley is ‘Ein as Sultan spring, as it is the primary source and only source for domestic and agricultural water in the city of Jericho (Photo 2). In addition to being an important historical and religious site as well as the main source of drinking and irrigation in the city, ‘Ein as Sultan spring is publically owned by all residents of Jericho city, distinguishing it from any other private agricultural wells.

*Photo 2: ‘Ein as Sultan Spring*



*Source: Photo courtesy of ARIJ, 2012*

Map 7: Distribution of Ground Water Wells and Springs in Jericho Governorate



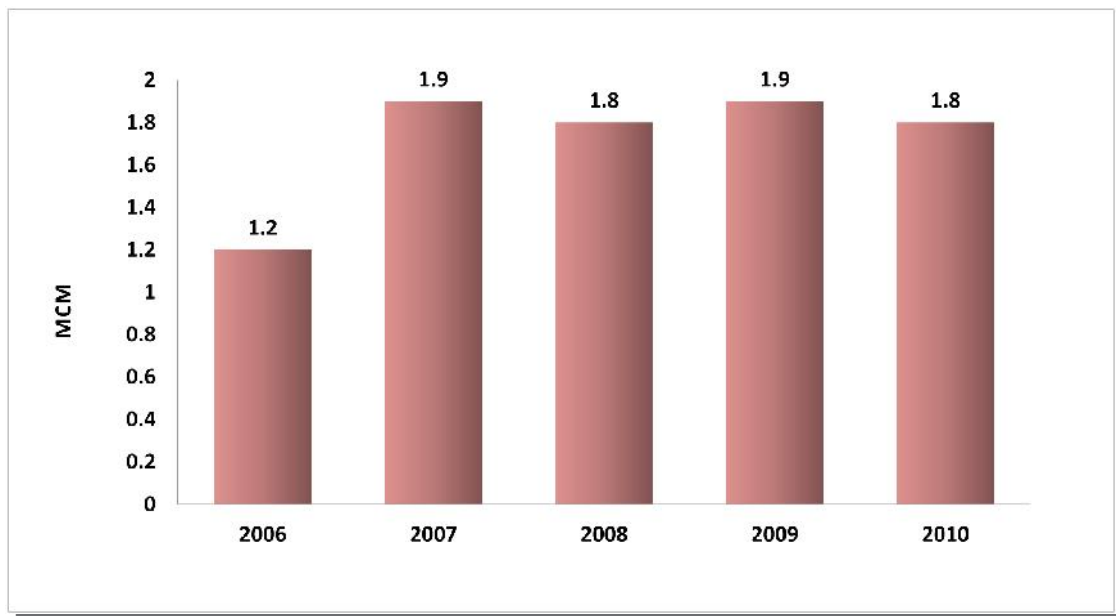
Source: ARIJ – GIS Unit, 2011a.

It is worth mentioning that prior to the Israeli occupation of the West Bank in 1967, the farmers of Jericho Governorate utilized water from the Jordan River to irrigate their lands. Following the 1967 war, the western lands along the Jordan River were declared a “closed military zone” to which Palestinians have no access.

Drinking water resources in the Jericho Governorate are divided into two main sources, namely: 1. Local resources mainly from the springs, and 2. Resources purchased from the Israel National Water Company Mekorot. The quantity of water purchased from Mekorot in Jericho and Al Aghwar for domestic use in the year 2010 was 1.8 MCM. This was set at a cost of 2.4 NIS/cubic meter (PWA, 2011).

The quantity of water purchased from Mekorot has increased from 1.2 MCM in 2006 to 1.9 MCM in 2007; during 2007 to 2010 the yearly quantity of purchased water in the Governorate has remained stable (see Figure 4). Although this quantity is relatively low, it represents 50% of the domestic water supply of the Governorate. This indicates that the dependency on purchased water in Jericho Governorate is high.

*Figure 4: Quantity of domestic water purchased from Mekorot in Jericho Governorate*



*Source: PWA, 2011*

For 2010, in terms of domestic water availability, despite experiencing drought conditions which impacted the agricultural sector, there was no water deficit as the domestic water supply met the needed quantity of water, with Jericho and Al Aghwar being one of only two West Bank Governorates that experienced no deficit in water supply. Table 29 (below) shows the necessary, available and consumed quantities and deficit in the West Bank by Governorate, 2010.



Table 29: Needed, available and consumed quantities and deficit in West Bank Governorates, 2010

Governorate	Needed Quantities of Water(1)	Water Supply for Domestic Sector	Deficit	Water Consumed	Actual Deficit
	MCM/year	MCM/year	MCM/year	MCM/year	MCM/year
West Bank(2)	124.6	85	39.6	60.3	64.3
Jenin	15	6	9	4.3	10.7
Tubas	3	1.7	1.3	1.2	1.8
Tulkarm	9.1	4.6	4.5	2.8	6.3
Nablus	18.6	11.2	7.4	7.9	10.7
Qalqiliya	5.3	4	1.3	3.1	2.2
Salfit	3.5	2.6	0.9	2	1.4
Ramallah & Al-Bireh	16.5	16.2	0.3	11.9	4.6
Jericho & Al-Aghwar	2.5	3.6	-1.1	2.7	-0.2
Jerusalem(2)	7.9	4.6	3.3	2.8	5.1
Bethlehem	10.3	10.7	-0.4	7	3.3
Hebron	32.9	19.8	13.1	14.6	18.3

(1) Needed quantity of water is calculated based on a water supply of 150 l/c.d

(2) Data exclude those parts of Jerusalem, which were annexed by Israel in 1967.

Source: PWA, 2011.

Although the water losses in 2010 were 0.9 MCM, representing 25% of the supplied water in Jericho Governorate, the Governorate is the only West Bank's governorate that did not suffer from an actual deficit in domestic water supply, as the amount of consumed water was higher than the needed quantity.

Jericho municipality, centered in Jericho city, is responsible for the majority of water supply services and administration/management, with the exception of the two refugee camps, which have their water services controlled by camp administrative committees. In 2010, the average per capita water consumption rate in Jericho Governorate was 162 liter/capita/day, which was the highest among the West Bank Governorates and more than double the average per capita allocation in the West Bank of 73 liter/capita/day. It is worth mentioning that the supply rate varies from one locality to another in the Governorate, and in some localities this rate is less than 40 liter/capita/day. In many other localities the per capita water consumption falls below the World Health Organization's (WHO) recommended minimum consumption of 100 liter/capita/day. It is further noted that the figures presented are Governorate averages, and therefore do not necessarily reflect the situation of some communities facing severe water shortages (some localities receive a much greater quantity of water per capita than the recommended amount, with other receiving significantly less).

Jericho governorate is served by the water network; however in some cases, the water network coverage in communities may not be complete (partial coverage). These un-served neighborhoods are dependent upon water tankers, rainwater collection systems and agricultural wells and springs (PWA, 2009a). It is further noted that rainwater collection systems are not frequently used in the Governorate given the low rainfall rates in the area.

In terms of water quality, there is no recently conducted and available widespread rigorous water quality analysis for the Governorate. However, in the year 2010 FAO/GVC along with other partners has conducted a water quality analysis within the study “Assessment of Water Availability and Access in the Areas Vulnerable to Drought in the Jordan Valley” in which the water quality of Jericho spring was identified and documented in terms of good, or polluted. The study revealed that the Fasayil, Al Sultan, Al ‘Auja spring’s water is considered of good quality except Al Dyuk and Shusah springs (GVC & FAO, 2011).

### 3.5. Waste Water

The existing practices for managing domestic wastewater in the Jericho Governorate are limited to the collection of wastewater by cesspits and its discharge into open areas, including wadis and agricultural lands, without concern for the environment.

Jericho and Al Aghwar Governorate lacks a public sewerage network with most of the Governorate residents using cesspits as their main means of wastewater disposal (ARIJ & CENTA, 2010). Most of the cesspits are left without a cement basement or liner so that sewage infiltrates into the earth layers and the owners avoid using the expensive services of the vacuum tankers to empty the cesspits.

Approximately 1.8 MCM of wastewater is generated annually in Jericho and Al Aghwar Governorate (ARIJ – WERU, 2012). It should be noted that wastewater generation can be significantly higher than the figures reported herein as they were calculated based on the total volume of municipal freshwater minus the total volume of unaccounted for water and the result multiplied by 80%.

### 3.6. Solid Waste

The existing practices for managing solid waste in Jericho Governorate include the collection of generated waste, transportation to random dumpsites or sanitary landfills (either within or outside of the governorate boundaries, depending in which locality waste is produced), and solid waste processing including plastic recycling and land filling.

Across Jericho Governorate, the responsibility for solid waste collection is split amongst a number of authorities. The Joint Service Councils for ‘Service Planning and Development’ (JCspd) assumes (either full or joint) control of 8 localities in Jericho Governorate, namely: An Nuwei’ma & ‘Ein ad Duyuk al Fauqa, Jericho city, Az Zubeidat, Fassayil, Marj al Ghazal, Marj Na’ja, E’in As Sultan camp and Aqbat Jaber camp. In E’in As Sultan and Aqbat Jaber camps, UNRWA in collaboration with the JCspd is responsible for managing solid waste. In Al ‘Auja village, the village council is responsible for managing solid waste. Official solid waste collection services cover almost all of the localities in the Governorate, with the exception of four including: Deir Hajla, An Nabi Musa and Deir Al Qilt <sup>14</sup> and Al Jifilik village.

Based on the solid waste generation rate <sup>15</sup> and population number, it is estimated that Jericho Governorate produces approximately 47.9 tons of domestic solid waste daily, which equates to 17,473.8 tons annually (ARIJ – WERU, 2012). About 40 tons of the generated solid waste are collected and dumped daily in Jericho sanitary landfill and in Zahret Al Finjan sanitary landfill (in Jenin Governorate). In addition, 7.3 tons of the generated solid waste are collected and dumped daily in the

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<sup>14</sup> It is noted however that these are the three smallest geographical districts with just 354 persons living between them (PCBS 2009f).

<sup>15</sup> Per capita solid waste generation rate for rural localities is 0.7kg/day and for refugee camps and urban localities is 1.05 kg/day

open and uncontrolled dumping sites, whereas the remaining waste<sup>16</sup> is dumped in the Israeli landfill Tovlan<sup>17</sup>.

It should be noted here that Jericho sanitary landfill was established in 2007 with a funding from the Japanese International Cooperation Agency (JICA). The landfill serves approximately 72.2% of Jericho and Al Aghwar Governorate area (PNA, 2010), as it covers Jericho city, Ad Duyuk and An Nuwei'ma town, in addition to Aqbat Jaber and 'Ein as Sultan camps (JCspd, 2012). Table 30 shows some information about Jericho's use of sanitary landfill; its capacity, the geographical scope it covers and the number of served population. As shown in the table below, the work in the landfill was to be finished in 2011, thus, the Council is currently preparing a plan to expand the area of the landfill for 20 extra dunums.

*Table 30: Information on Jericho Sanitary Landfill for solid waste*

Area Served by the landfill	Served Population	Daily Amount of Waste (ton/ day)	Capacity (m <sup>3</sup> )	Landfill Area (dunum)	Total Area (dunum)	L i f e - time	Comple-tion Date
Jericho city, Ad Duyuk & An Nuwei'ma town, and Aqbat Jaber & 'Ein as Sultan Camps (72.2% of Jericho & Al Aghwar Governorate)	32,368	33 - 35	53,000	10.3	26.5	4 years	2011

*Source: JCspd, 2012*

Through designing the landfill, the standards of Japan (Fukouka Theory); Semi aerobic system, were taken into consideration, as the landfill was lined by two layers of soil and a layer of high density plastic (HDPE) in order to prevent leakage of leachate into groundwater, in addition to the extension of a network of pipes to collect the leachate and discharge it into a pool made specially for the collection of leachate, also, pipes were installed to collect gas and release it into the air in order to get rid of it (JCspd, 2012).

Jericho and Al Aghwar Governorate has a privacy which is the internal and external tourism in a certain period of the year between mid-November until the end of April of the following year of each year, in addition to being an only crossing of the West Bank, and this increases the quantity of generated solid waste. It should be noted that the number of visitors to Jericho in the year 2011 was 4,832,053 visitors (Ministry of Tourism & Antiquities, 2012), causing a clear increase in the amount of the generated solid waste equivalent to 3,650 tons /year. This quantity of solid waste needs to be factored into consideration when creating future policy strategies and plans regarding its collection, disposal and overall management.

<sup>16</sup> Generated from Marj Na'ja village and Marj Al Ghazal village.

<sup>17</sup> Tovlan landfill is located north of Yafit settlement in the Jericho Governorate.

### 3.6. Environmental Conditions

#### Water Crisis

Following the 1967-war, the Israeli occupation forces took control of the Jordan River and declared the land adjacent to the river a “closed military zone”, to which the Palestinians have been prevented from using the water sources close to the river, where the Palestinians, as legal riparians of the Jordan River, are being deprived of their legal right to utilize this resource of freshwater. While the Jordan River is considered a shared source of water between Israel, Lebanon, Syria, Jordan and Palestine, its waters is being exploited in a way that violates the International Water Law; due to the dominance of Israel over the water resources shared in the region in order to meet its water needs without taking into account the requirements of the other riparian states. Israel, being a powerhouse in the region, has managed to violate the water rights of the Jordan River riparian states, mainly the Palestinian rights, which became apparent through Johnston’s Plan that has called for the establishment of the western valley channel to provide the Palestinians with their share of the river’s water; estimated at 250 million cubic meters a year. Also, the diversion of water from Tiberius Lake to the Negev Desert through the Israeli national carrier as well as the Jordan eastern valley channel, has resulted in reducing the annual amount of low-quality and high salinity water flowing in the river from 1.320 million cubic meters in the early fifties of the last century to less than 50 million cubic meters at the current time. Also, the Dead Sea surface area has shrunk by more than the third of its total area, in addition the water level of the Sea is dropping at an annual rate of around 1 meter. In addition, more than 162 agricultural water projects, which were developed during the Jordanian rule of the West Bank, have been destroyed or confiscated by Israeli forces.

The Israeli occupation forces also control ground water resources and preventing Palestinians from drilling new wells or develop the old ones. Moreover, the Israeli water company Mekorot had a significant role in controlling the West Bank water resources, as Mekorot controls many deep wells located within Jericho & AL Aghwar Governorate. Mekorot wells essentially serve the Israeli settlements with low price water, and sell the Palestinians their own water with high prices. The difference of the quantity of water supplied to the illegal Israeli settlements in the West Bank is massive to that supplied to the Palestinians. The settler’s water consumption for household use is more than 400 l/d/c, while the Palestinian in some Palestinian localities does not consume more than 40 l/d/c. The following table (31) provides further examples of this stark situation by comparing Israeli settlements’ availability of and access to water with that of nearby Palestinian villages.

*Table 31: Israeli settlements’ availability of and access to water with that of nearby Palestinian villages*

Israeli Settlement	Water consumption rate l/c/d	Nearby Palestinian village	Water consumption rate l/c/d
Niran	433	Al-A’uja	32 - 120
Arganan	411	A-Zubeidat	82 - 120

*Source: EWASH, 2011; GVC&FAO, 2011*

It is worth mentioning here that the spring’s dryness is a direct result of Israel’s control over the groundwater and the groundwater wells, as they dig their wells near the Palestinian springs. For example, Israeli occupation forces have constructed huge sized wells over Al ‘Auja’s hot water basins which has caused serious and direct harm to the quantity of water flowing from the spring, therefore resulting in its dryness, despite of the good amount of water that flows from the Al ‘Auja spring this season, as the spring’s flow is influenced by precipitation, however, the presence of a number

of Israeli wells constructed after 1967, which penetrates the reservoir that feeds Al ‘Auja spring, in addition to pumping large quantities of water, all has a negative impact on the spring (Photo 3). In addition, the region adjacent to the spring has become a “closed military zone”.

*Photo 3: Al ‘Auja spring’s dryness*



### **Wastewater Management**

The absence of a public sewage network means most city residents use cesspits for the disposal of wastewater, and/or discharge wastewater in the streets, of these actions cause environmental damages, health problems, and the spread of epidemics and diseases in the city. The use of cesspits pollutes the groundwater, springs as the wastewater mixes with water and contaminates it, thus making it inappropriate for human consumption. This is due to the fact that most cesspits are built without lining, which allows wastewater to enter into the ground and avoids, on a sporadic basis, the need to use sewage tankers.

Moreover, the generated wastewater from the Israeli settlement flows to the Palestinian lands which results in the pollution of the ground water, like the case of Wadi Al Qilt spring which was polluted by the wastewater generated from Mitzpe settlement.

### **Solid Waste Management**

The obstacles created by the Israeli authorities for local and national institutions, like granting licenses to establish such a landfill, because the appropriate land is within Area C, under the Israeli control, hinder the development of the solid waste sector. Thus, the lack of a sanitary landfill is a hazard risk for the health, a source of pollution to the groundwater and soil through the leachate produced from the solid waste, and it produces odors and distortion of the landscape.

The Israeli occupation also uses the Palestinian lands in the West Bank for dumping the generated solid wastes from the settlement. Israel built Tovlan landfill on Jericho & Al Aghwar Governorate lands. Tovlan landfill is located north of Yafit settlement in the Jericho Governorate. The landfill was

established in the nineties as a private project; its design did not include the necessary infrastructure to prevent leakage of leachate resulting from the waste, which pollutes the groundwater, or to prevent the emission of greenhouse gases. Currently, the landfill serves Israeli settlements located in the Jericho & Al Aghwar Governorate, in addition to Ariel settlement and Barqan industrial zone (B'TSELEM, 2011). Tovlan landfill is considered a main source of the Palestinian environmental pollution, as the Israeli factories dispose their hazardous waste into the landfill.

***PART FOUR***  
***Geo-Political Status in the***  
***Jericho Governorate***

#### 4.1 Historical background of the changing boundaries of Jericho Governorate

Jericho Governorate's area covers just about 592.82 km<sup>2</sup>, with one main city (Jericho city) and other 12 localities including two refugee camps (E'in as Sultan and Aqabat Jaber camps) (See map 8). Today the Governorate is a home to more than 42,320 Palestinian inhabitants (PCBS, 2007).

Map 8: Jericho Governorate Location Map



Source: ARIJ – GIS Unit, 2011a



## 4.2. Jericho Governorate under Oslo Accords

The Oslo II Interim Agreement signed in September 1995 between the Palestinian Liberation Organization (PLO) and Israel concluded that Israel would commence their withdrawal from many areas of the West Bank which they had been occupying. Subsequently, the agreement set out the newly demarcated occupied territory be divided into Areas “A”, “B” and “C”; designated as such in relation to the varying levels of control held over the region by Israeli and Palestinian forces. Accordingly, the Israeli Army withdrew from lands classified as area “A”, over which the Palestinian National Authority assumed complete control. This marked the first time that a Palestinian Government retained sovereignty over any Palestinian land since 1948. In area B, the Palestinians would have full control over civil matters but Israel continues to have overriding responsibility for security. In area C, Israel retains full control over land, security, people and natural resources. This jagged distribution of areas “A”, “B”, “C”, has scattered the occupied Palestinian territory and turned it into isolated cantons, which are physically separated from each other (See map 9).

Under the signed Oslo Accord, Jericho Governorate was classified to areas “A”, “B” and “C” as a part of withdrawal process to be completed before the end of 1999 prior to the instigation of negotiation over the final status issues. Table 32 illustrates the area’s distribution and existing population for each.

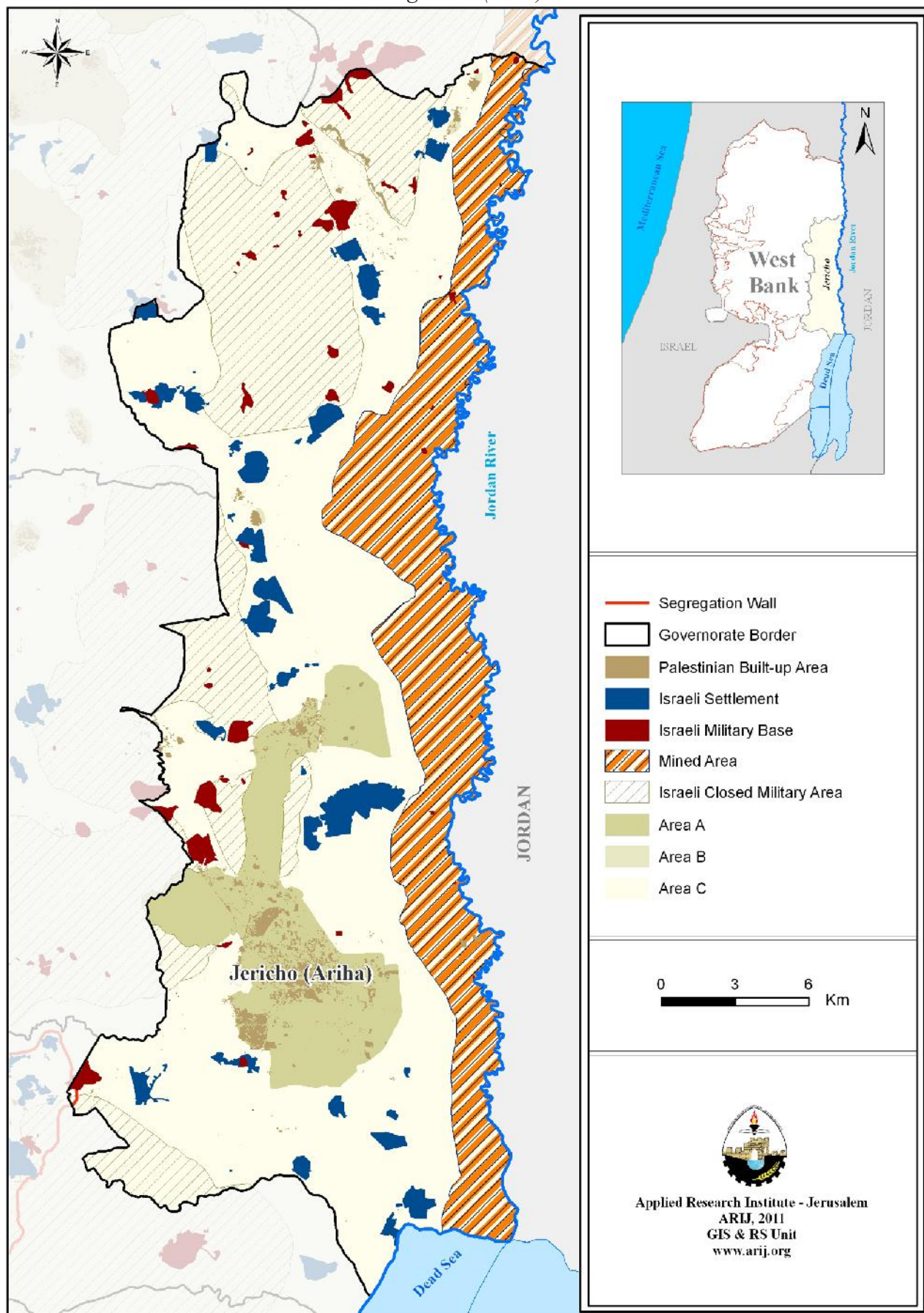
*Table 32: Geopolitical divisions of Jericho Governorate according to Oslo II Interim Agreement (1995)*

Area	Area (in Km2)	%	population	%
<b>Area A</b>	68.2	11.50	6,234	13.04
<b>Area B</b>	0.694	0.12	39,582	82.82
<b>Area C</b>	523.9	88.38	1,979	4.14
<b>Total</b>	<b>592.8</b>	<b>100</b>	<b>47,795</b>	<b>100</b>

*Source: ARIJ – GIS Unit, 2011b*

The table shows that almost 95% of the population (45,816) inhabiting Jericho Governorate live in areas “A” and “B”, which’s total area; constitute 11.6% (68.859 km2) of the Governorate’s area, where the population density reaches 67 persons per 1 Km2, while the remaining population (1,979 residents) live within area “C” which constitutes 88.3% (523.9 Km2), where the bulk of the Governorate’s agricultural lands and the open space and future development areas exist and where the Israeli Army still enjoy full control and administrative jurisdiction over the land.

Map 9: The Geopolitical divisions of the Jericho Governorate according to Oslo II Interim Agreeent (1995)



Source: ARIJ – GIS Unit, 2011b

### 4.3. The Israeli Settlements' Activities' in Jericho Governorate

Israeli settlement activities in Jericho commenced following the Israeli occupation of the West Bank and Gaza Strip in 1967. Activities arising as a result of Israel's settlements seek to unilaterally and illegally create facts and populations on the ground that will ultimately undermine Palestinian presence and sustainability on their lands, and create an Israeli majority on the lands extending from the Jordan River to the Mediterranean Sea. The occupation's confiscation of Palestinian lands, uprooting of fruitful trees and the demolition of Palestinian houses has proceeded virtually without interruption. From January 1994 to February 2012, the Applied Research Institute Jerusalem (ARIJ) has systematically and comprehensively recorded Israeli violations against Palestinian lands and properties in Jericho Governorate, and found out that a total of 32,063 dunums of Palestinian lands' were confiscated for various Israeli purposes. Moreover, a total of 122 Palestinian houses were demolished throughout this period and 725 houses are currently considered to be under the threat of demolition in Jericho Governorate (ARIJ – UMD, 2011a) (See table 33).

Table 33: Israeli Violations in the Jericho Governorate during the years 1994 and February 2012

Year	Confiscated Palestinian Land	Palestinian land threatened of Confiscation	Uprooted Palestinian Trees	Demolished Palestinian Houses	Palestinian Houses threatened of Demolition
1993	0	0	0	0	0
1994	611	0	0	0	0
1995	0	0	0	0	0
1996	0	0	0	0	0
1997	600	0	0	10	0
1998	0	0	0	5	0
1999	200	0	50	0	0
2000	4	0	0	0	0
2001	37	0	0	0	3
2002	502	0	0	16	13
2003	30004	500	0	0	0
2004	37	0	0	13	0
2005	0	0	0	8	0
2006	0	0	0	1	0
2007	0	0	0	4	2
2008	0	0	0	0	4
2009	0	0	0	0	37
2010	50	0	0	4	626
2011	18	140	0	48	35
Feb-12	0	0	0	13	5
<b>Total</b>	<b>32063</b>	<b>640</b>	<b>50</b>	<b>122</b>	<b>725</b>

Source: ARIJ – UMD, 2011a

#### 4.4. Israeli Settlements & Settlement outposts in Jericho Governorate

A number of Israeli settlements were established after the June 1967 war, marking a growing wave of Israeli settlements in the Governorate. Today, there are 20 Israeli settlements accommodating nearly 6000 Israeli settlers which infringe Palestinians' lands in Jericho Governorate (See table 34). These settlements are built on a total area of 22,764 dunums, which constitutes around 3.8 % of the Governorate's total area.

Table 34: List of Israeli settlements in Jericho Governorate

No.	Settlement Name	Establishment Date	Area confiscated from Jericho Governorate	Population 2009
1	Almog	1977	524	153
2	Atraqzia	NA	472	Tourist Site
3	North Dead Sea (Solar Pond)	NA	692	Tourist Site
4	Vered Jericho	1980	618	194
5	Massu'a	1970	2,201	172
6	Ma'ale Efrayim	1970	1,390	1,400
7	Yafit	1980	1,294	127
8	Tomer	1978	1,049	233
9	Gilgal	1970	1,125	172
10	Niran (Na'aran)	1981	496	54
11	No'omi (Na'ama)	1979	5,048	102
12	Lido Yehuda	NA	1,147	Tourist Site
13	Peza'el (Fezael)	1972	1,418	272
14	Mekhora	1973	437	122
15	Netiv HaGedud	1975	1,208	175
16	Beit Ha'Arava	1980	506	95
17	Argaman	1970	1,202	166
18	Yitav	1970	455	227
19	Mizpe Yeriho	1978	968	1,754
20	Gittit	1973	513	283
<b>Total</b>		-	<b>22,764</b>	<b>5,701</b>

Sources: ARIJ – UMD, 2011b; ARIJ – GIS Unit, 2011d.

Furthermore, in the years between 1996 and 2009, Israeli settlers in Jericho Governorate established 11 locations, which came to known as settlements' outposts<sup>18</sup> (See map 10). This outpost phenomenon started back in 1996 by Israeli settlers who wished to take control of hilltops in the occupied Palestinian territory; these outposts being mostly located within 1-4 miles in distance from an existing settlement (See map 10). The Israeli government did not provide them with financial support which rendered them to be illegal and unauthorized communities, yet they did provided them with infrastructural support and the protection of the Israeli army who aid and abet them in carrying out

<sup>18</sup> settlements' outposts are a technique improvised by Israeli officials in cooperation with Israeli settlers; under which the latter seize hilltops and certain locations in close proximity to existing settlements in order to annex the location to the settlement –if it exists within the master plan area of the settlements - all of which under the direct protection of the Israeli Army.

attacks against Palestinian lands. The aim of the outposts established by Israeli settlers, in an indirect manner of collaboration with the Israeli government, was best described in 1998 by the Israeli Agriculture Minister at that time and former Prime Minister Ariel Sharon; to take as much Palestinian land as possible before “losing them to Palestinians in negotiations”.

“Everybody has to move, run and grab as many hilltops as they can to enlarge the settlements because everything we take now will stay ours ...everything we don’t grab will go to them.”  
 Ariel Sharon addressing a meeting of militants from the extreme rightwing Tsomet party (Agence France Presse, November 15, 1998).

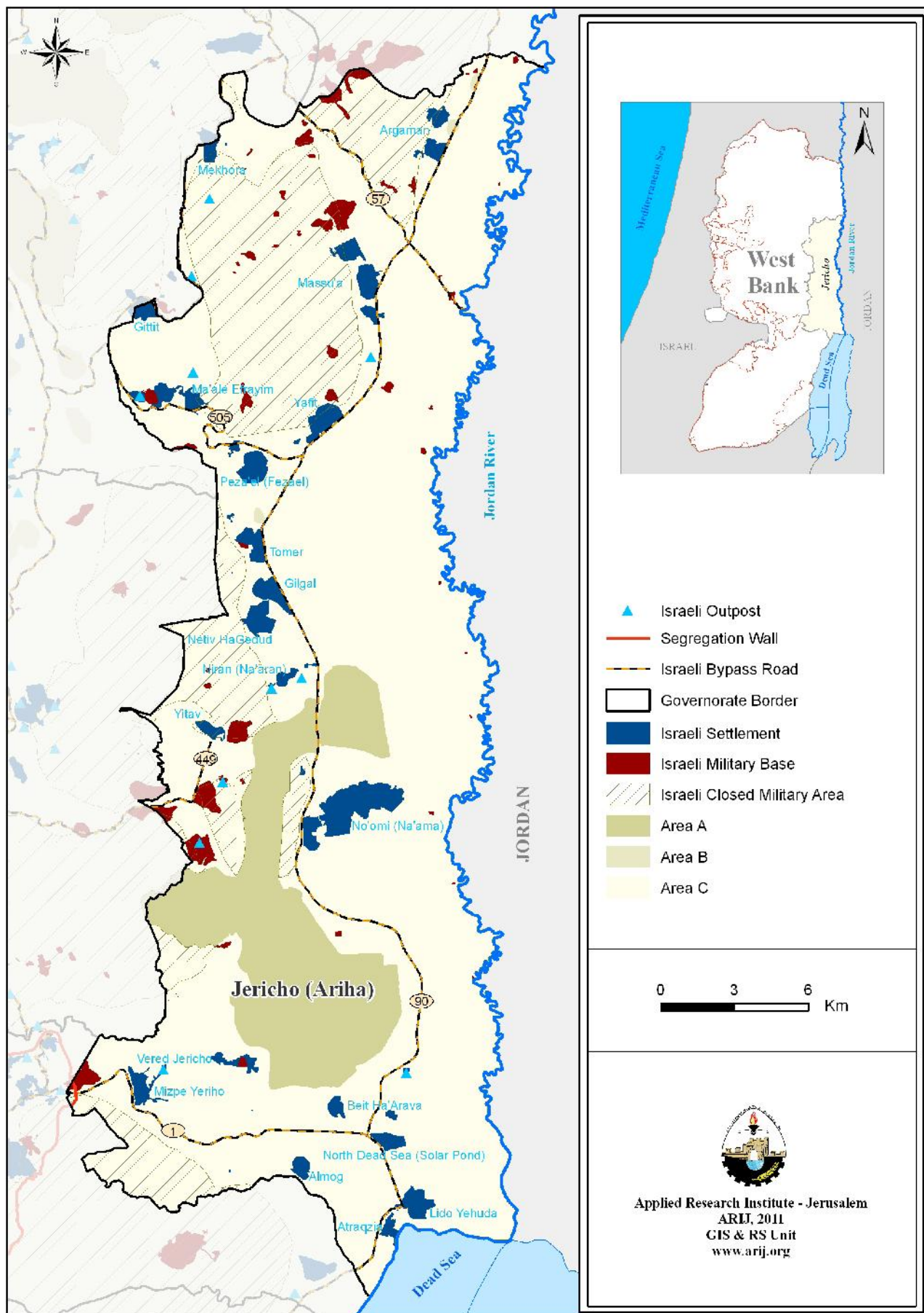
Table 35 lists the Israeli settlements’ outposts that were established in Jericho Governorate.

*Table 35: Israeli Settlements’ Outposts in Jericho Governorate*

No.	Outpost Name	Closest Mother settlement	Establishment Period
1	Omer Farm	NA	NA
2	West Niran	Niran	Feb 2001 - Nov 2002
3	East Niran	Niran	Feb 2001 - Nov 2002
4	Mevo'ot Yericho	Yitav	Jan-99
5	Mul Nevo	Beit Ha'arava	Jan-01
6	Mizpe Yeriho North East	Mitzpe Yeriho	Jan-02
7	Maale Efriyam Preparatory	Maale Efriyam	NA
8	North Maale Efriyam	Maale Efriyam	Feb 2001 - Nov 2002
9	South Massua	Massua	Jan-02
10	East Gittit	Gittit	Feb 2001 - Nov 2002
11	South Mekhora	Mekhora	Feb 2001 - Nov 2002

*Source: ARIJ – GIS Unit, 2011d*

Map 10: Distribution of Israeli settlements outposts and bypass roads in the Jericho Governorate



Source: ARIJ – GIS Unit, 2011d

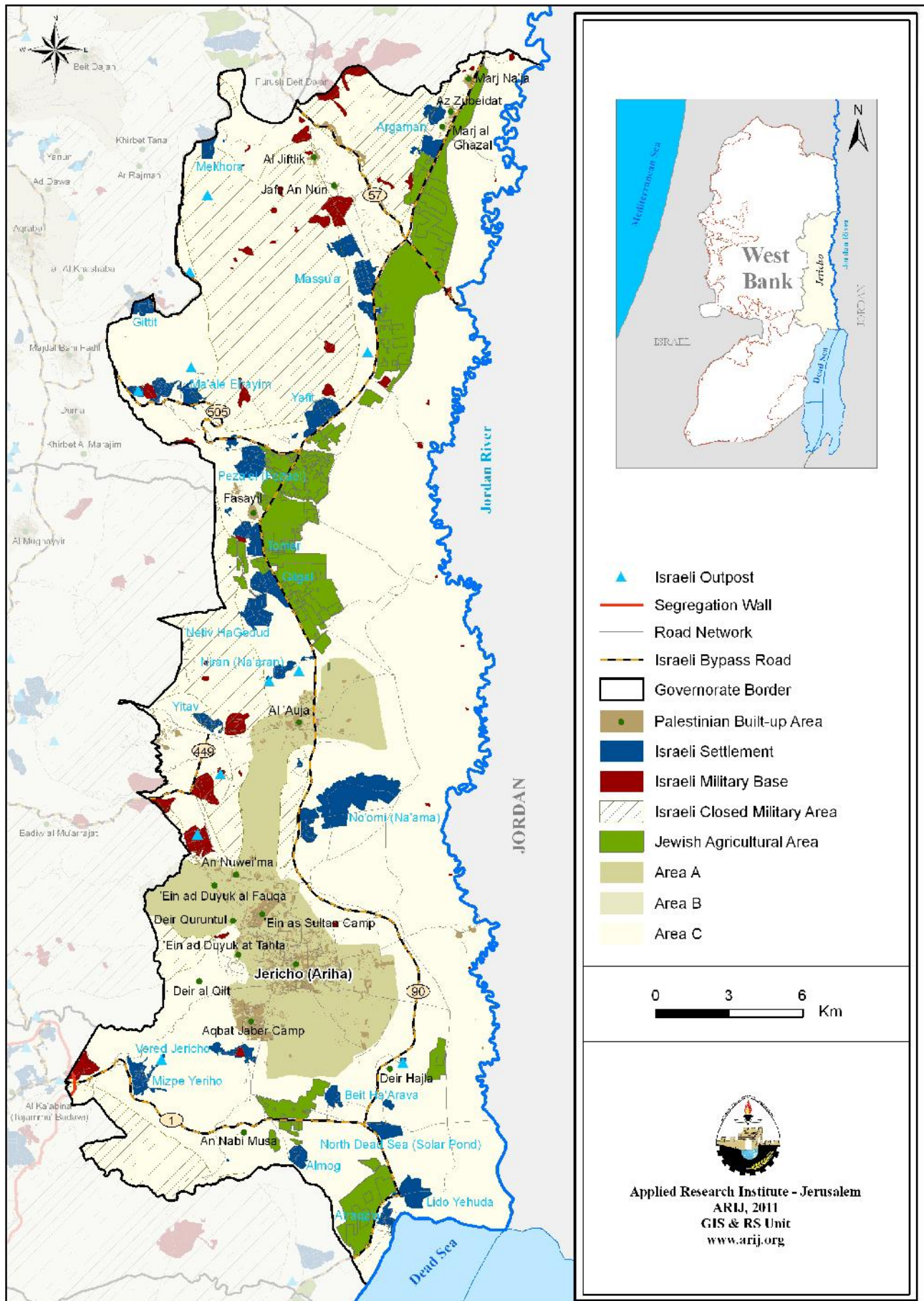
#### **4.5. Israeli settlements with “National Priority”**

On December 12 2009 the Israeli cabinet approved a new map on national priority areas in Israel that was presented by the Israeli Prime Minister Benjamin Netanyahu. Here it was decided that funding would be given to dozens of Israeli settlements in the occupied Palestinian territory. The total budget of this plan is approximately 2 billion shekels, of which 110 million shekels were designated for Israeli settlers living in Israeli settlements in the occupied Palestinian territory (Haaretz News, 2010). The map included 90 Israeli settlements in the West bank, of which, 17 are located in Jericho Governorate and are as follows: Almog, Argaman, Beit Ha’arava, Gilgal, Gitit, Ma’ale Efrayem, Massou’, Mechora, Mitzpe yereho, Na’omi, Netiv Hagdud, Niran, Petza’el, Tomer, Vered Yereho, Yafit, and Yitav. The total population of these 17 Israeli settlements included in the national priority map, is 5701 Israeli settlers.

#### **4.6. Israeli settlements’ agricultural areas in Jericho Governorate**

The successive Israeli governments have encouraged settlers to exploit agricultural areas adjacent to settlements and cultivate them in order to control more Palestinian agricultural lands in the eastern segregation zone and annex them to settlements. The area of Israeli agricultural areas adjacent to Israeli settlements in the eastern segregation zone is around 64000 dunums (64 Km<sup>2</sup>); approximately 7.4% of the total agricultural areas in the eastern Segregation Zone (which amount to 864 km square, and 3.9% of the total area of the Eastern Segregation Zone). In Jericho Governorate, the area of Israeli agricultural areas adjacent to Israeli settlements is 33,703 dunums, 5.7% of the total area of Jericho Governorate (See map 11).

Map 11: Israeli agricultural area of the Jericho Governorate



Source: ARIJ – GIS Unit, 2011d



#### 4.7. Israeli Checkpoints (obstructions) in Jericho Governorate

Creating operational checkpoints has always been the standard procedure of the Israeli Occupation Army in the West Bank and Gaza Strip territory. However, as a result of the Palestinian Intifada during September 2000, the Israeli Army increased the number of operating checkpoints to unprecedented levels. These were, and are, accompanied by restrictions imposed on the Palestinian populace attempting to cross them. Over the past years, the behavior of the Israeli soldiers stationed at these checkpoints has taken a turn beyond the usual hassling treatments to vicious and sadistically planned acts and behaviors. This has been proven in numerous human rights reports, investigations and the testimony of Palestinians from different segments of society who have been subjected to various forms of Israeli cruelty. These have involved beatings, humiliation, being held for hours under the burning sun or the cold before they are allowed to cross any given checkpoint. The fallouts of the Israeli soldiers' acts at checkpoints have had a tormenting affect on the Palestinian society; causing cut offs in social ties, economic separation between districts, rise in unemployment levels, and disruption to daily life activities and internal emigration. In addition to this, medical services have become dramatically affected as medical staff, doctors and patients were, and are, denied access through checkpoints; including medical emergencies and on many occasions patients were carried on wheel chairs or animals (donkeys) when ambulances were not allowed to cross- in many cases causing patients' deaths. Moreover, the Israeli soldiers at checkpoints impose a time restriction on the movement on many checkpoints, and even though it is not clear that the Israeli Army authorizes such actions; it is one and the same, since similar and much more brutal actions went on with impunity.

Jericho Governorate is no different from any other Palestinian Governorate. It is burdened with all sorts of Israeli checkpoints and obstructions to indicate all forms used by the Israeli Army to restrict Palestinians' movements, which include: cubical cement roadblocks, earth mounds, manned checkpoints and agricultural gates, tunnels, secondary roads iron gates, etc (See map 12). These obstructions have multiplied since the beginning of the second Intifada in September 2000 to reach a record of 10 different forms of obstructions by the year 2011. Table 35 lists the number and various types of obstructions established by the Israeli Army, used to restrict and confine the movement of 46,000+ Palestinian residents of Jericho Governorate.

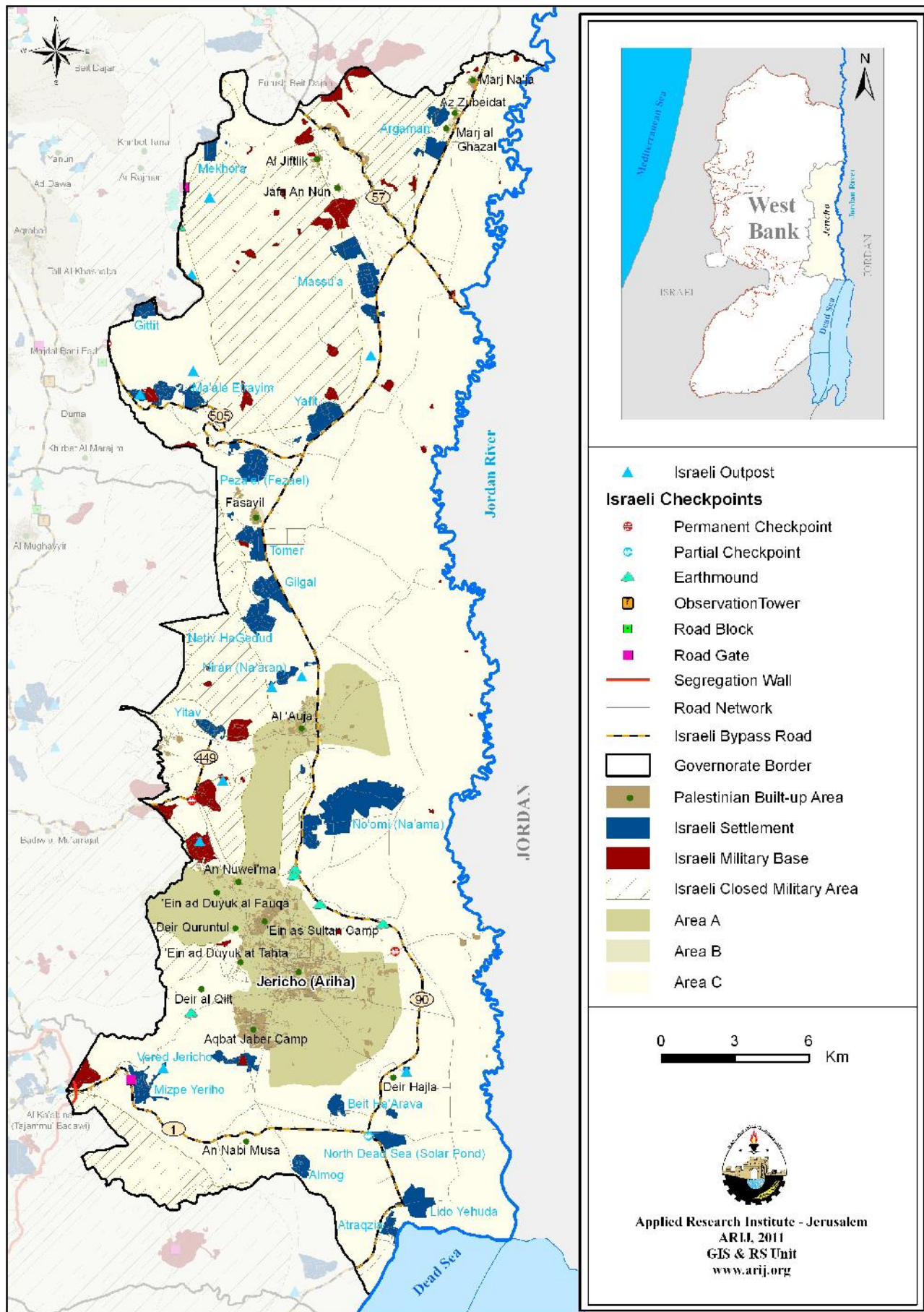
Table 36: Israeli checkpoints in Jericho Governorate

Type of Checkpoint	No. of Checkpoints
Checkpoint	2
Earth mound	5
Road Gate	2
Partial Checkpoint	1
<b>Total</b>	<b>10</b>

Source: ARIJ – GIS Unit, 2011e

The consequences of these actions on the economy of Jericho have been devastating; particularly on the agricultural sector, which is a major source of livelihood for many of Jericho's residents. Such measures against this sector have thus caused wide spread frustration for local Palestinians living there.

Map 12: Israeli checkpoints in the Jericho Governorate



Source: ARIJ – GIS Unit, 2011d

#### 4.8. The Presence of Israeli Bypass roads in and around Jericho Governorate

The term “Bypass Roads” did not come into use until the signing of the Oslo agreement between Israelis and Palestinians in 1993; to indicate designated roads for the Israeli Army and settlers’ use, in a manner that bypasses Palestinian towns and communities for the purpose of Israeli Army redeployment. From that point on, Israel intensified its efforts to increase the magnitude of the bypass roads in the occupied Palestinian territory as a part of its policy to coerce facts on the ground and ultimately affect the outcome of negotiations with Palestinians; including the establishment of a viable contiguous Palestinian State. The majority of the West Bank is classified as Area “C”, which hold all Israeli settlements and consequently the Israeli bypass roads that pierce many “A” and “B” classified areas by establishing a physical obstruction between two Palestinian controlled locations.

Israel launched a vigorous settlement construction and expansion program following the Israeli occupation of the West Bank and Gaza of 1967. The consecutive governments of the state of Israel adopted a separation concept based on the creation of an Israeli controlled road grid system, which works to facilitate the construction of Israeli settlements and the ease of Israeli settlers’ movement between occupied territory settlements and Israel proper. Eventually it is planned that they will incorporate the Israeli created and controlled road grid system in the occupied territory with the road grid system in Israel. The Israelis built these roads under the pretext of “security needs”; a term that presented the Israeli Army with a legitimate excuse to expropriate Palestinian lands. This is a procedure that has previously proved its efficiency when the Israeli Army would expropriate Palestinian lands under the “security needs” pretext to establish an Army base, which later on is placed under Israeli settlers’ control who would turn it on their part into a civilian inhabited area. For Israel, that was the only available option or the only loop to bypass international law, which considers, expropriating land for any purpose other than military use a “grave breach”<sup>19</sup> (Geneva Convention, IV, 1949).

Israel has further argued for the use of a military role (again under the pretext of security) in protecting the settlements and bypass roads, which should allow the Army to expropriate private Palestinian lands to build settlements and its roads. Israel argued for these changes in so far as the roads that they were building will also benefit the local Palestinian population who would be allowed to travel on them. Furthermore, Israel built roads on confiscated Palestinian lands contributed immensely to stimulating the habitation of the Israeli settlements, which encouraged the Israeli settlers to take initiative and construct roads on their own, but would later on be endorsed and adopted by the Israeli Army to cast a shadow of legitimacy on this infrastructure. In addition to its role in connecting settlements, Israeli built roads worked to restrain the development of the Palestinian communities in the West Bank by creating de-facto obstructions to areas designated for development.

Prior to the outbreak of the second Intifada in September 2000 Palestinians had almost complete access to these bypass roads, except at times when the Israeli Army initiated a ‘security alert’ meaning that Palestinians’ would no longer be allowed to travel on bypass roads or would have to undergo a thorough security check conducted by the Israeli Army border patrols in order to do so; often taking hours at a time.

*19 Art. 147. Grave breaches to which the preceding Article relates shall be those involving any of the following acts, if committed against persons or property protected by the present Convention: willful killing, torture or inhuman treatment, including biological experiments, willfully causing great suffering or serious injury to body or health, unlawful deportation or transfer or unlawful confinement of a protected person, compelling a protected person to serve in the forces of a hostile Power; or willfully depriving a protected person of the rights of fair and regular trial prescribed in the present Convention, taking of hostages and extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly.*

However, following the 2000 Intifada, Palestinians' access to virtually all bypass roads became forbidden; unless they are in possession of a special permit issued by the Israeli civil administration. Later on, the Israeli Army would refer to bypass roads as no longer Palestinian, meaning Palestinian citizens are no longer allowed to travel on these "sterile" (Palestinian free) routes.

Today, almost 109 Km fall under the 'bypass roads' category in Jericho Governorate (See map 10). Whether these are constructed or under their planning phase, all comply with the Israeli settlements program and to facilitate movement between these settlements with each other and with Israel, well beyond the 1949 Armistice Line (Green Line). Palestinians today are denied access to the bypass roads network and are blocked from them with cement blocks, trenches, earth-mounds, barbwire and iron gates; all under the pretext of military and/or security purposes.

The construction or designation of bypass roads requires the additional confiscation of a 75-meter buffer zone on each side of the road, which caused and still causes immense destruction to Jericho lands. These zones are controlled by the Israeli military and access is severely restricted to Palestinians. Complementing the bypass roads, a complex system of military checkpoints and roadblocks are being erected at strategic points along this route, which together allow the Israelis to cut off and control all the Palestinian areas in Jericho Governorate.

#### **4.9. Jericho Governorate and the Israeli Segregation Wall Plan**

In Jericho Governorate, the Segregation Wall will extend a total length of 1 kilometre around the western boundaries, thus causing the confiscation and isolation of 235 dunums of lands by converting them into Israeli areas (ARIJ – GIS Unit, 2011a) (See map 10). This segregated section is part of the Wall route which is set to enfold the Ma'ale Adumim settlement bloc east of Jerusalem and annex it to Israel proper along with two other major Israeli settlement blocs that surround the city of Jerusalem; 'Giv'at Ze'ev' settlement bloc in the north of Jerusalem city and the southern located 'Gush Etzion' settlement bloc. This is done as part of the "Greater Jerusalem plan", a concept which began to develop during the late seventies to create settlement continuity around Jerusalem to cut the territorial continuity of East Jerusalem with the rest of the West Bank Governorates, to increase Jewish population around Jerusalem and impose Jewish demographic supremacy that would strengthen the hold on Jerusalem and pave the way literally and illegally for future prospect to redefine Jerusalem municipal boundary once again (ARIJ – GIS Unit, 2011a).

#### **4.10. Israeli Military Orders in Jericho Governorate**

Israel have continued to issue military orders to consolidate its control over the occupied territory, starting from building and expanding settlements and bypass roads, confiscating lands, ending with the construction of the Segregation Wall. In Jericho Governorate, the Israeli Army issued several military orders to carry out its plans, many of which, to this day are not made publically available or to those to which the plans have direct concern. Table 36 details the Israeli military orders that were issued and are available in Jericho Governorate.

Table 37: Israeli Military Orders in Jericho Governorate

Type of Military Order	No. of Orders
House Demolition	55
Land Confiscation for the various Israeli military purposes	3
Total	58

Source: ARIJ – UMD, 2011b.

The damage caused by the checkpoints and closures is not limited to the Palestinian economy, but goes beyond that as it restricts the movement of every Palestinian, leading them to depression, in addition to the collective punishment and humiliation it represents.

The population of the occupied Palestinian territories has and is still living under the constant threat of violence from the Israeli army and settlers. The economic collapse, and the constant fear of personal safety, are forcing the Palestinians to consider the possibility of migration in search of better living conditions, considering that most of these conditions will not improve in their homeland, as evidences indicates lack of opportunities for improvement of their situations, along with the dwindling of their savings, which stimulates further migration as a result of occupation measures.

#### 4.11. Jericho Governorate in the eastern segregation Zone

Following the Israeli occupation of the West Bank and Gaza Strip in 1967, Israel targeted the eastern part of the West Bank (including Jericho Governorate), by declaring large areas as a “closed military zones”, in order to prevent Palestinian urban and economic development. In addition, the Israeli authorities has captured other parts of the eastern region in order to establish military bases and illegal Israeli settlements on Palestinian land, through the Absentee Property Law, which gave the Israeli military authority the right to control and keep territories of absentee Palestinians. These actions aim at further displacement of Palestinians from their places of residence, so that Israel can continue to implement its colonial plans in the region, and strengthen its presence in the occupied Palestinian territories.

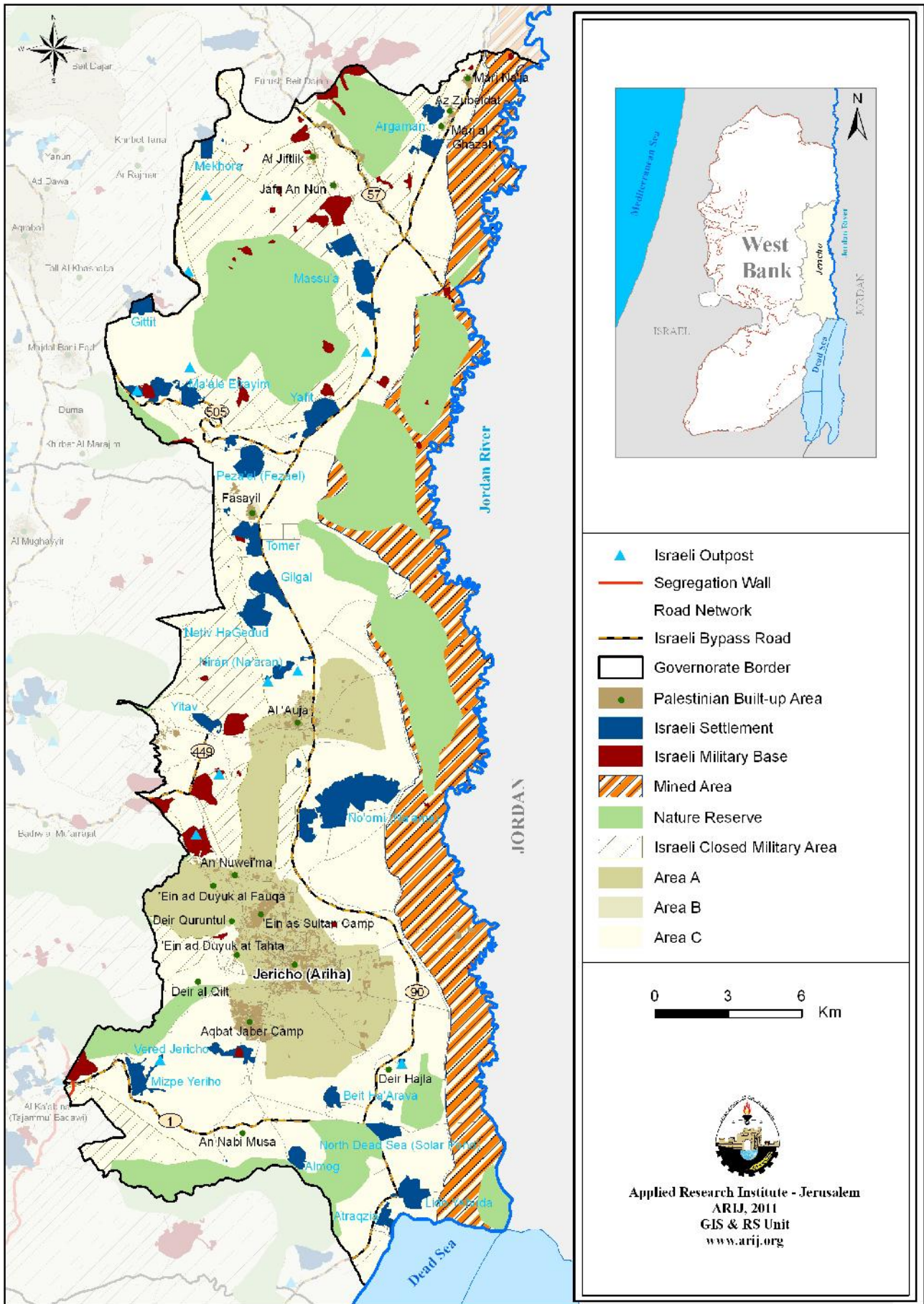
Moreover, these measures constitute an obstacle to the growth of Palestinian communities in the eastern region, as most Palestinian population centers in areas where construction is prohibited unless you obtain a building permit from the Israeli Civil Administration. 21.2% of the total area of Jericho Governorate land was announced as “closed military zones”, thus became off-limits to Palestinians. In addition, 41.8% of Jericho Governorate territory was classified as mined areas, which, also, is outside the control of Palestinians (See map 13).

When the unilateral segregation plan was launched by the Israeli government in June 2002, a wall was projected to be constructed along the slopes of the eastern West Bank. However, the map approved by the Israeli government and issued by the Israeli Occupying Forces on April 30th, 2007 indicated that the section previously marked in earlier maps from the Matallah village northeast the West Bank going south to the village of Al Aqaba has been cancelled. However, the Israeli Prime Minister Sharon in April 2004 indicated that the eastern barrier will be maintained by blocking access to the Jordan Valley region. He added “a wall is not likely to be erected in the near future, unless there are military necessities. Here and there, we will block access points to the Jordan Valley” (BPFMEP, 2004). He also pointed out that “the Jordan valley area will remain under Israeli control even after reaching a settlement with the Palestinians as it is considered to be a strategic security zone”.

The eastern part of Jericho Governorate lies within the West Bank's eastern Segregation Zone and extends from Jericho's eastern slopes to the western shores of the Dead Sea. This sparsely populated eastern section covers a total area of 291,720 dunums (291.7km<sup>2</sup>) (44.3% of the total Governorate area). The reason for this small population is that the vast majority of the land has been declared a closed military area/ or nature reserve area by the Israeli Government since 1967. Accordingly, the Israeli Army has prohibited any kind of development in that area, making it utterly become inaccessible to Palestinians. It is worth noting that all declared nature reserves in Jericho governorate by Israeli occupation are inaccessible areas to Palestinians and overlap with minded areas and closed military areas, revealing that the reason behind the declaration is political and not biological (See map 13).

Moreover, on June 28, 2009, the Land Registry Office at Ma'ale Adumim settlement published 12 public notices in the local Palestinian Al Quds newspaper regarding registering 139,000 dunums located along the northern and western shores of the Dead Sea, as the property of the custodian of state land of Israel. The majority of the targeted land for confiscation belongs to Jericho Governorate, hence cutting any future possibility of access to the Dead Sea shores and denying Palestinians rightful investment opportunities there. What is more significant is that the Israeli confiscation procedures aims to manipulate and will continue to manipulate the future extension of Palestinian governmental control over Jericho's land along its eastern terrains; which is the only available land remaining for future expansion purposes.

Map 13: Restricted and inaccessible areas to Palestinians in Jericho Governorate



Source: ARIJ – GIS Unit, 2011d





***PART FIVE:***  
***General Needs Assessment in the***  
***Jericho Governorate***

## 5.1. Development Priorities and Needs in the Jericho Governorate

During ARIJ's field survey of the localities in Jericho & Al Aghwar Governorate, a general needs assessment was conducted. As mentioned in the methodology section the locality needs were surveyed through collecting information about set of relevant indicators provided in a questionnaire sheet and filled by leaders of community. The survey showed that 90% of the localities in Jericho & Al Aghwar Governorate are in need of paving and constructing new roads, 60% of the localities stated that they need new schools to cover the great number of students, and 80% of the localities are in need of clinics and healthcare centers. In addition, the water networks in Jericho & Al Aghwar Governorate need a great deal of attention, as 40% of the localities stated that they need new water networks.

As for the agricultural sector, 80% of the localities are in need of feed and hay for cattle as well as establishing barracks and pens for livestock.

Table 37: Development Priorities and Needs in Jericho & Al Aghwar Governorate, 2011/2012

Needs by Sector	Strongly Needed	Needed	Not a Priority
<b>Infrastructural Needs (%)</b>			
Opening and Pavement of Roads	90	-	10
Rehabilitation of Old Water Networks	50	-	50
Extending the Water Network to Cover New Built up Areas	80	-	20
Construction of New Water Networks	40	-	60
Rehabilitation/ Construction of New Wells or Springs	70	-	30
Construction of Water Reservoirs	60	10	30
Construction of a Sewage Disposal Network	90	-	10
Construction of a New Electricity Network	30	10	60
Providing Containers for Solid Waste Collection	80	-	20
Providing Vehicles for Collecting Solid Waste	30	30	40
Providing a Sanitary Landfill	30	20	50
<b>Health Needs (%)</b>			
Construction of New Clinics or Health Care Centers	80	10	10
Rehabilitation of Old Clinics or Health Care Centers	40	20	40
Purchasing of Medical Equipment and Tools	90	-	10
<b>Educational Needs (%)</b>			
Construction of New Schools	60	-	40
Rehabilitation of Old Schools	60	10	30
Purchasing of New Equipment for Schools	80	-	20
<b>Agricultural Needs (%)</b>			
Rehabilitation of Agricultural Lands	50	10	40
Building Rainwater Harvesting Cisterns	40	-	60
Construction of Barracks for Livestock	70	-	30
Veterinary Services	50	20	30
Seeds and Hay for Animals	80	-	20
Construction of New Greenhouses	60	-	40
Rehabilitation of Greenhouses	50	10	40
Field Crops Seeds	50	-	50
Plants and Agricultural Supplies	70	10	20

## 5.2. Participatory Rapid Appraisal (PRA)

The Participatory Rapid Appraisal is a qualitative research tool used to identify problems and formulate solutions. Its aim is to enable people to access an issue and make their own plans to address it.

PRA emphasizes the empowerment of local people. It enables them to assume an active role in analyzing their problems and potentials in order to come up with solutions.

The PRA approach was chosen for this study because it provides guidelines for the fast appraisal of a certain situation in the field, the main advantages being:

1. It involves a relatively short time in the field.
2. It focuses on a few specific topics.
3. It involves the community and their institutions.

In view of that, nine PRAs were conducted at locality level, where community leaders, farmers, women associations' representatives, and local co-operatives' representatives (agricultural, environmental, societal...etc.) were in attendance. Another general workshop took place at Jericho Governorate level, where the governmental bodies (including Jericho Governorate Office's representatives, Jericho Education and Higher Education, Agriculture and Health Directorates' representatives), and the relevant NGOs working in Jericho attended. During the workshops a discussion among the attendees was opened to come out with a comprehensive vision and analysis for the gaps and needs of Jericho Governorate as a whole entity.

During the PRA Workshops, each community presented us with its points of *Strength, Weakness, Threats, Proposed Solutions, and Needs Priorities* in relation to *Agriculture, Water, and Environment*. Upon these results the following needs and development projects were proposed at locality level.

The sum of the proposed projects that were concluded of the ARIJ field survey and the conducted PRAs at both locality and Governorate levels is presented in Annex1.



***PART SIX***  
***Proposed Development Projects***  
***(Agriculture, Water & Environment) for the***  
***Jericho Governorate***

One objective of the “Village Profiles Needs Assessment in the Jericho Governorate” project is to present development programs and activities to assist in developing the livelihood of the population in the Jericho Governorate.

Based on the survey and the Participatory Rapid Appraisal (PRA) workshops conducted in the Jericho Governorate and the consultation of the Agriculture Directorate of Jericho, the following concept papers were developed addressing the major needs for livelihood development in the governorate with main focus on water, environment and agriculture interventions.

### 6.1. Proposed Project Concept Entitled “Rain Water Harvesting Systems for Domestic and Agricultural Uses”

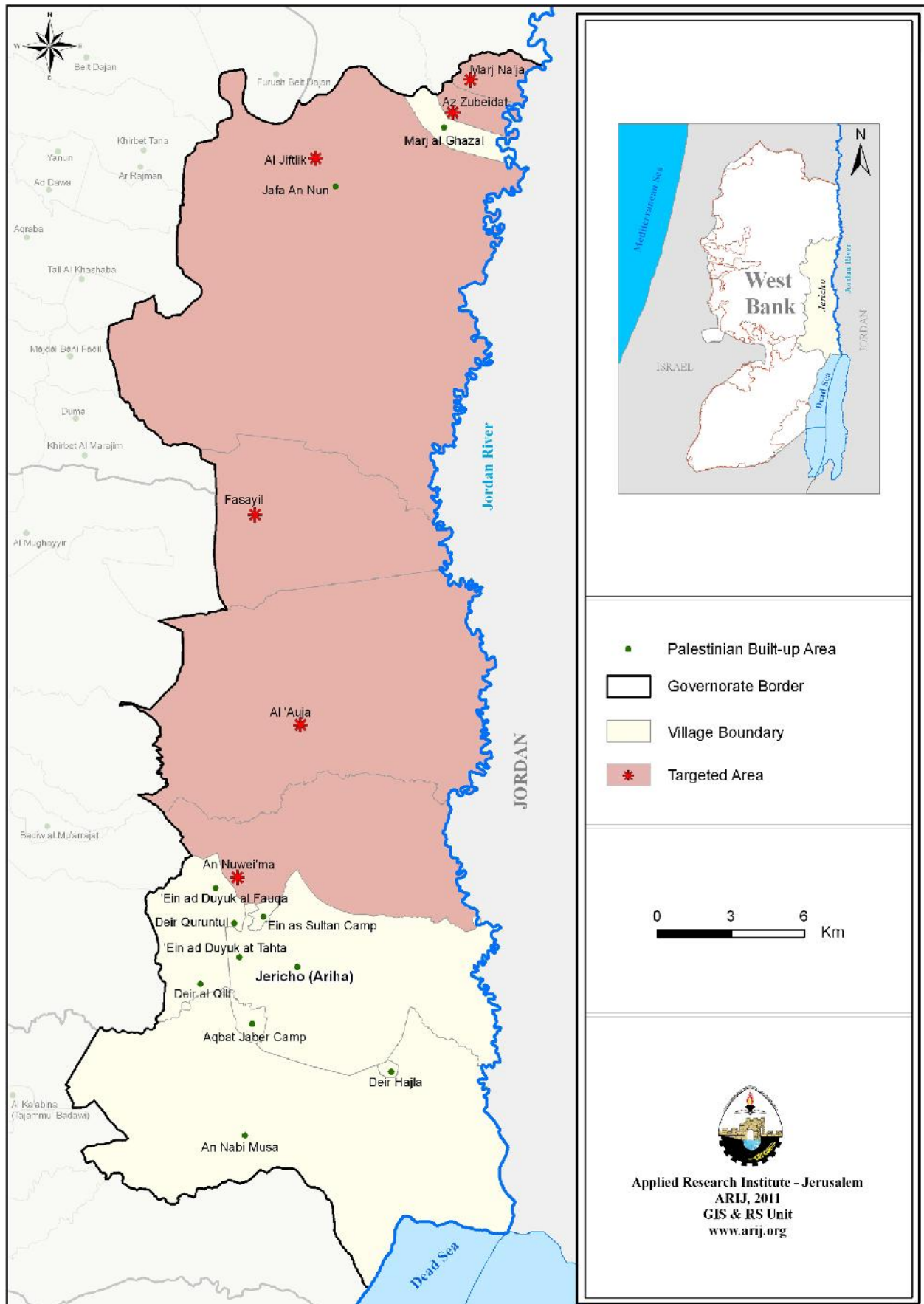
<b>Project Title</b>	<b>Rehabilitate and improve breeding management and hygienic conditions of small ruminants in the Jericho Governorate</b>			
<b>Project Duration</b>	24 months			
<b>Estimated Budget</b>	The total estimated project budget is US \$1,332,860. 15% of the livestock sheds rehabilitation cost will be as beneficiaries’ contribution.			
<b>Stakeholders</b>	The project stakeholders will be the Ministry of Agriculture (MoA), UNDP, and local and international Agricultural Associations and NGOs.			
<b>Targeted Areas</b>	The project will target seven localities in Jericho Governorate, as the following:			
		<b>No. of live-stock shed need rehabilitation (beneficiaries)</b>	<b>Total number of sheep and goats</b>	<b>Total required area of barracks rehabilitation (m2)</b>
	<b>Auja</b>	30	2672	4010
	<b>Nweimeh</b>	50	2177	3270
	<b>Zubeidat</b>	70	2980	4470
	<b>Fasaiel</b>	20	1704	2560
	<b>Marj Na'jeh</b>	10	171	260
	<b>Jeftlik</b>	7	814	1220
<b>Total</b>	<b>187</b>	<b>10,518</b>	<b>15,790</b>	
The project will target the following localities of Jericho Governorate, which are: <b>Auja, Nweimeh, Zubeidat, Fasaiel, Marj Na’jeh and Jeftlik.</b>				

<b>Beneficiaries</b>	The project will target 187 large families, as most of the targeted families are Bedouins (approximately 3,740 individuals).
<b>Project Description</b>	<p>This area contains 34,315 heads of small ruminants based on the statistics of the agricultural Directorate of Jericho, 2011 and the total existing livestock sheds are 454 sheds. This project will help in improving the small ruminates sheds in the targeted areas through constructing rehabilitating 187 sheds (41.2%of existing sheds) and breeding conditions of and hygiene conditions for 10,518 heads (30.7% of existing sheep and goats).</p> <p>The proposed project fits with the fourth Strategic objective of the agricultural Sector Strategy “shared vision 2011-2013: Improve the productivity of both plant and livestock activities and its contribution to realizing food security. Also, with the fifth policy: Policies that aim to improve the productivity of both plant and livestock activities and its contribution to realizing food security. Furthermore, it fits with the priorities of the Agricultural Directorate of Jericho, and farmers.</p> <p>The sheds will protect sheep and goats from sun shine, rain and wind. Also, the rehabilitation process will focus on improving drinking, feeding and sanitation, medication conditions of the targeted small ruminants to improve their living conditions which will increase the amount of produced milk and meat with better quality. This will increase the growth, reproduction and production efficiency of the benefited folks. On the other hand this will assist in mitigating drought conditions and increasing the access of the benefited heads to more feed.</p>
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• To rehabilitate and improve breeding conditions of small ruminants in the Jericho Governorate;</li> <li>• To improve the breeding, management and hygienic conduction of sheep and goats in the targeted communities;</li> <li>• To increase the production and reproduction capacities of the targeted small ruminants;</li> <li>• To reduce the effects of drought and heat.</li> <li>• To increase the access of the sheep and goats to feed and medications;</li> <li>• To improve the access of these marginalized farms to veterinary services.</li> </ul>

<p><b>Project Activities</b></p>	<ul style="list-style-type: none"> <li>• Launching the project in partnership of the community committees (contain representatives from CBOs, NGOs and MoA) and announcing for public to apply.</li> <li>• The completed applications will be analyzed and investigated through conducting field visits and determining the beneficiaries according to the project selection criteria (the beneficiaries should be small ruminants breeders or herders and it is considered as source of income to their families).</li> <li>• Assist the needs of each one of the selected beneficiaries (size of the sheds, required materials to rehabilitate it and improve feeding and drinking facilities and the hygienic conditions for existing small ruminants).</li> <li>• Rehabilitating 187 livestock sheds with total area of 15,790 m2 and providing them with feed for 2 months.</li> <li>• Provide beneficiaries with necessary technical support and veterinary support.</li> <li>• Supervising the rehabilitation and improvement process during the project life.</li> <li>• Monitoring the impact of improved breeding conditions on improving food production and livelihood of the benefited families.</li> <li>• Preparing the final reports (technical and financial) and disseminating the results.</li> </ul>
<p><b>Expected Results</b></p>	<ul style="list-style-type: none"> <li>• 187 livestock sheds rehabilitated and improved in the targeted areas;</li> <li>• The breeding, management and hygienic conditions of 10,518 small ruminant heads improved and their reproduction, milk production and meat production increased by at least 30%.</li> <li>• The targeted localities received intensive veterinary and medication treatments for the existing sheep and goats.</li> <li>• The production increased quantitatively and qualitatively and the livelihood of targeted households increased accordingly.</li> </ul>



Map 14: Targeted areas for rehabilitate and improve breeding management of small ruminants – proposed project



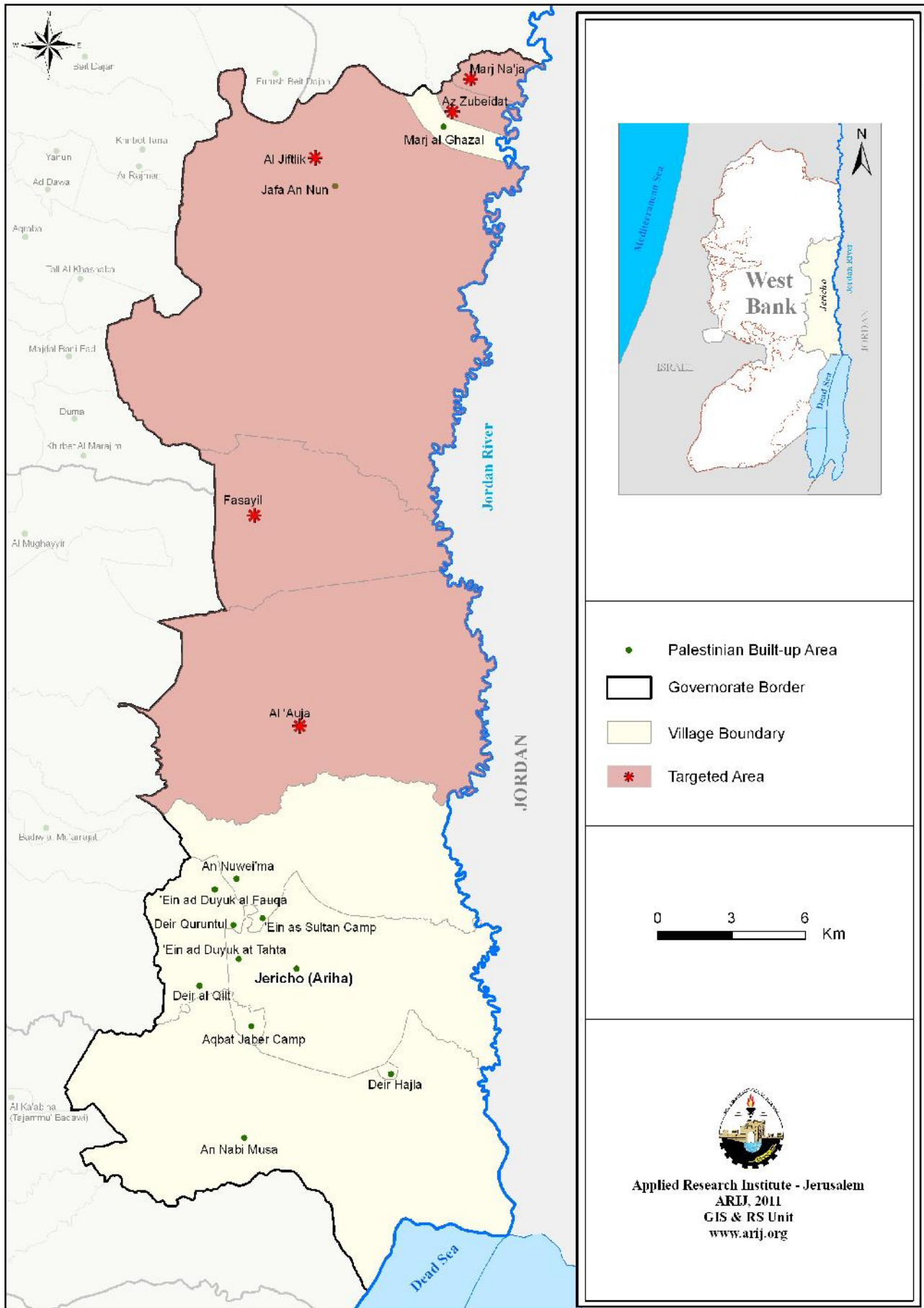
Source: ARIJ – GIS Unit, 2011a

## 6.2. Proposed Project for Land Rehabilitation

<b>Project Title</b>	<b>Land Rehabilitation for Plant Production</b>																														
<b>Project Duration</b>	36 month																														
<b>Estimated Budget</b>	<p>The total targeted area is around 1,670 dunums distributed over 5 localities in the Jericho Governorate.</p> <p>Therefore, the total budget is estimated at around US \$2,187,500. However, of the total budget, 25 percent will be as beneficiaries' contribution.</p>																														
<b>Stakeholders</b>	The project stakeholders will be the Ministry of Agriculture (MoA), the Ministry of Local Government (MoLG), UNDP, Local and international Agricultural Associations and the NGOs.																														
<b>Targeted Areas</b>	<p>The project will target five localities in the Jericho Governorate, as the following:</p> <table border="1"> <thead> <tr> <th>Locality</th> <th>Targeted area (dunum)</th> <th>No. of owner families</th> <th>Source of irrigated water</th> </tr> </thead> <tbody> <tr> <td><b>Auja</b></td> <td>1000</td> <td>50</td> <td>Spring</td> </tr> <tr> <td><b>Zubeidat</b></td> <td>150</td> <td>15</td> <td>artesian well</td> </tr> <tr> <td><b>Fasaiei</b></td> <td>300</td> <td>30</td> <td>Spring</td> </tr> <tr> <td><b>Marj Na'jeh</b></td> <td>20</td> <td>5</td> <td>artesian well</td> </tr> <tr> <td><b>Jeftlik</b></td> <td>200</td> <td>20</td> <td>artesian well</td> </tr> <tr> <td><b>Total</b></td> <td><b>1670</b></td> <td><b>120</b></td> <td></td> </tr> </tbody> </table>			Locality	Targeted area (dunum)	No. of owner families	Source of irrigated water	<b>Auja</b>	1000	50	Spring	<b>Zubeidat</b>	150	15	artesian well	<b>Fasaiei</b>	300	30	Spring	<b>Marj Na'jeh</b>	20	5	artesian well	<b>Jeftlik</b>	200	20	artesian well	<b>Total</b>	<b>1670</b>	<b>120</b>	
Locality	Targeted area (dunum)	No. of owner families	Source of irrigated water																												
<b>Auja</b>	1000	50	Spring																												
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<b>Jeftlik</b>	200	20	artesian well																												
<b>Total</b>	<b>1670</b>	<b>120</b>																													
<b>Beneficiaries</b>	The project will target 120 families (approximately 840 individuals)																														
<b>Project Description</b>	<p>The project will assist in the rehabilitation of approximately 1,670 dunums distributed in the targeted areas. In addition, it will generate 16,700 working days for reclamation improving water resources and planting the palm seedlings.</p> <p>The reclamation process will include the use of suitable agricultural machines, terracing, building of walls or fencing, palm trees seedling preparing the soil and planting of palm trees.</p> <p>This proposed project will complement the strategic plan of the MoA through increasing the amount of cultivated areas, protecting the land from the Israeli procedures of land confiscation, creating job opportunities and improving the livelihood of the targeted families.</p> <p>Also, the farmers will be supported to plant their lands with green forage crops as intercropping among the planted palm seedlings while they become larger.</p>																														

<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• To increase the total cultivated area in the Jericho Governorate.</li> <li>• To create job opportunities for both genders and thus decreasing the high unemployment rate in the area.</li> <li>• To improve the livelihood of the targeted families.</li> <li>• To reduce the effects of land degradation through land cultivation.</li> <li>• Enhance the utilization of salty water for irrigating the suitable trees (palm trees seedlings)</li> <li>• Utilize the remained open space among these planted palms seedlings to plant green forages for livestock.</li> </ul>
<b>Project Activities</b>	<ul style="list-style-type: none"> <li>• Announcing the launch of the project and collecting applications for land reclamation from land owners in the targeted localities.</li> <li>• Determining the targeted areas and beneficiaries according to the project selection criteria.</li> <li>• Preparing and announcing the implementation conditions and the bidding package.</li> <li>• Implementing the reclamation and rehabilitation of the targeted areas and providing the beneficiaries with the adequate extension.</li> <li>• Cultivating the rehabilitated areas by the suitable crops (mainly palm seedlings).</li> <li>• Supporting the farmers to cultivate their lands with green forages crops as intercropping among the planted palm seedlings.</li> <li>• Building the capacities of the farmers</li> <li>• Supervising, monitoring and evaluating the implementation process.</li> <li>• Preparing the final reports and disseminating the results.</li> </ul>
<b>Expected Results</b>	<ul style="list-style-type: none"> <li>• Additional 1640 dunums of Agricultural land rehabilitated and planted with 24,600 palm seedlings.</li> <li>• Job opportunities created during and after the lifespan of the project.</li> <li>• Poverty alleviated through income increase.</li> <li>• Land degradation reduced.</li> <li>• Productivity of the agricultural unit increased as forages in short period and dates in the long period.</li> <li>• Self-sufficiency induced.</li> </ul>

Map 15: Targeted areas for land rehabilitation for plant production-proposed project



Source: ARIJ – GIS Unit, 2011a

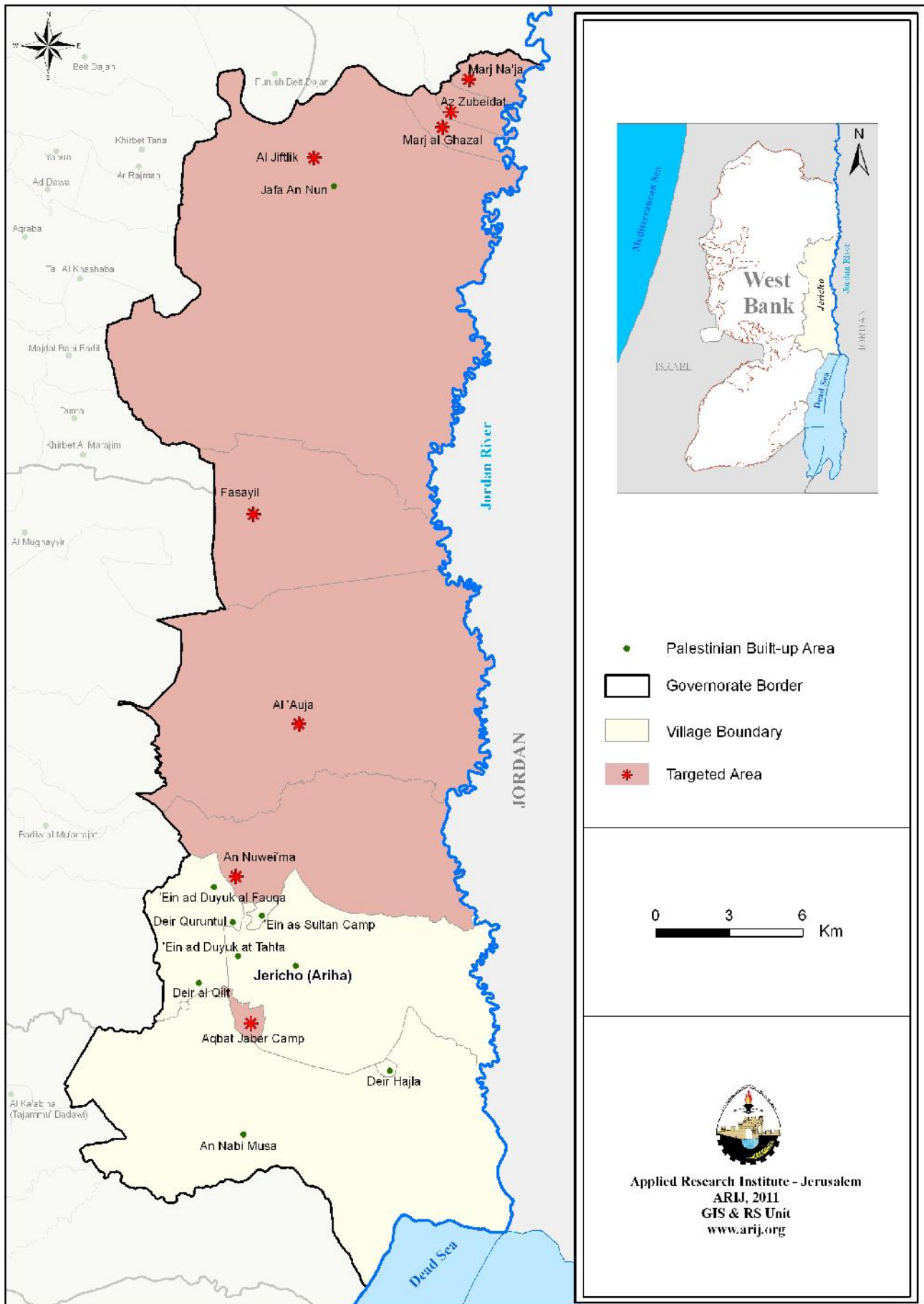
### 6.3. Proposed Project Supporting Small Herders

<b>Project Title</b>	<b>Supporting Small Herders</b>										
<b>Project Duration</b>	10 months										
<b>Estimated Budget</b>	<p>The project will benefit 191 herding families (small herders), targeting around 2865 sheep and goats in localities in the Jericho Governorate.</p> <p>Therefore, the total budget is estimated at around US \$1,274,000. However, of the total amount, 20% will be contributed by beneficiaries.</p>										
<b>Stakeholders</b>	The project stakeholders will be the Ministry of Agriculture (MoA), local and international organizations, and NGOs.										
<b>Targeted Areas</b>	The project will target eight localities in the Jericho Governorate as follows:										
				<b>Targeted farmers and heads</b>							
	<b>Community</b>	<b>Total No. of Sheep and goats</b>	<b>No. of farming families</b>	<b>No. of Sheep and goats</b>	<b>targeted families (holdings)</b>	<b>required barley amount in tons</b>	<b>required hay amount in tons</b>	<b>barley seeds amount per head (kg)</b>	<b>hay per head (kg)</b>	<b>Distribution period</b>	<b>Type of required feed</b>
	Auja	18704	210	630	42	170	227	0.27	0.36	6- months	barley seeds and hay
	New'meh	4573	105	274	18	74	99	0.27	0.36		
	Zubeidat	809	19	109	7	29	39	0.27	0.36		
	Fasaiei	7498	88	480	32	130	173	0.27	0.36		
	Marj Ghazal	171	10	128	9	35	46	0.27	0.36		
	Marj Na'jeh	2560	22	346	23	93	124	0.27	0.36		
	Jeftlik	15544	257	570	38	154	205	0.27	0.36		
	Aqbat Jaber Refugee Camp	2426	75	328	22	88	118	0.27	0.36		
	<b>Total</b>	<b>52285</b>	<b>786</b>	<b>2865</b>	<b>191</b>	<b>774</b>	<b>1,031</b>				
<p>These villages contain over 52,000 sheep and goats, forming 8.1% of the total number of sheep and goats in the West Bank. These areas are hot and dry, but the sheep and goats have acclimatized and can produce milk and meat. Farmers feed their herds with crop by-products but must supplement this with purchased barley seeds and hay. Farmers struggle to feed their flocks in droughts and must purchase increased quantities of barley seeds and hay during these times.</p>											

<b>Beneficiaries</b>	The project will target 191 families (approximately 1377 individuals).
<b>Project Description</b>	<p>The project will provide 191 small herders (livestock farmers) in Jericho Governorate with feed for their flocks during droughts to reduce the rearing costs and help them to safeguard their flocks. This will increase the productivity of their flocks, reduce production costs, and increase profitability.</p> <p>This project will focus on providing knowledge to empower farmers to manage their flocks in hot and dry conditions.</p> <p>This project will contribute to the Agricultural Sector Strategy: A Shared Vision / 2011-2013, particularly the fourth strategic objective: “Improve the productivity of both plant and livestock activities and its contribution to realizing food security”. It will also support the first agricultural sector policy, which states its goal as to “support and protect marginalized groups especially small-scale farmers, rural poor, women and Bedouins”.</p> <p>The livestock farmers will be supported with production inputs to feed their sheep and goats during the hot and dry season. The required amounts of hay and seed barley will be purchased from other Palestinian farmers, with a particular focus on purchasing from those farmers growing forage crops in the Jordan Valley area in order to encourage the expansion of such cultivation.</p>
<b>Project Objectives</b>	<ul style="list-style-type: none"> <li>• Enhance the access of Jericho Governorate livestock small farmers to feed sold at subsidized prices.</li> <li>• To encourage Palestinian farmers to produce more feed seeds and hay through planting their lands, reducing the high costs of production inputs and the demand on outside markets.</li> <li>• To assist in improving the profitability of the targeted livestock farming families.</li> <li>• To reduce the effects of drought on the raising of sheep and goats by small farmers.</li> <li>• Encourage Palestinian farmers to produce forages and barley seeds to reduce dependency on external markets and reduce the costs of feed.</li> <li>• Building the capacity of farmers who raise small ruminants to reduce the impact of drought and high temperatures on the health and productivity of sheep and goats.</li> <li>• Empowering the existing cooperatives and CBOs in targeted areas.</li> </ul>

<p><b>Project Activities</b></p>	<ul style="list-style-type: none"> <li>• Announcing the launch of the project and collecting applications for land reclamation from land owners in the targeted localities.</li> <li>• Determining beneficiaries according to the project selection criteria.</li> <li>• Preparing and announcing the conditions of implementation and the bidding package.</li> <li>• Prioritizing the purchase of nationally-produced food.</li> <li>• Collecting contributions from the beneficiaries and distributing purchased feed.</li> <li>• Building the capacity of the farmers to manage sheep and goats under drought conditions.</li> <li>• Supervising, monitoring, and evaluating the implementation process.</li> <li>• Preparing the final reports and disseminating the results.</li> </ul>
<p><b>Expected Results</b></p>	<ul style="list-style-type: none"> <li>• 191 livestock families supported to improve their production, income and livelihood.</li> <li>• 2856 sheep and goats provided with barley seeds and hay for six months.</li> <li>• 191 farmers trained on managing sheep and goat farms in hot and dry conditions.</li> <li>• Targeted farmers increase their income and profitability.</li> <li>• CBOs improve their support to farmers in the targeted villages.</li> </ul>

Map 16: Targeted areas for supporting small herders –proposed project



Source: ARIJ – GIS Unit, 2011a



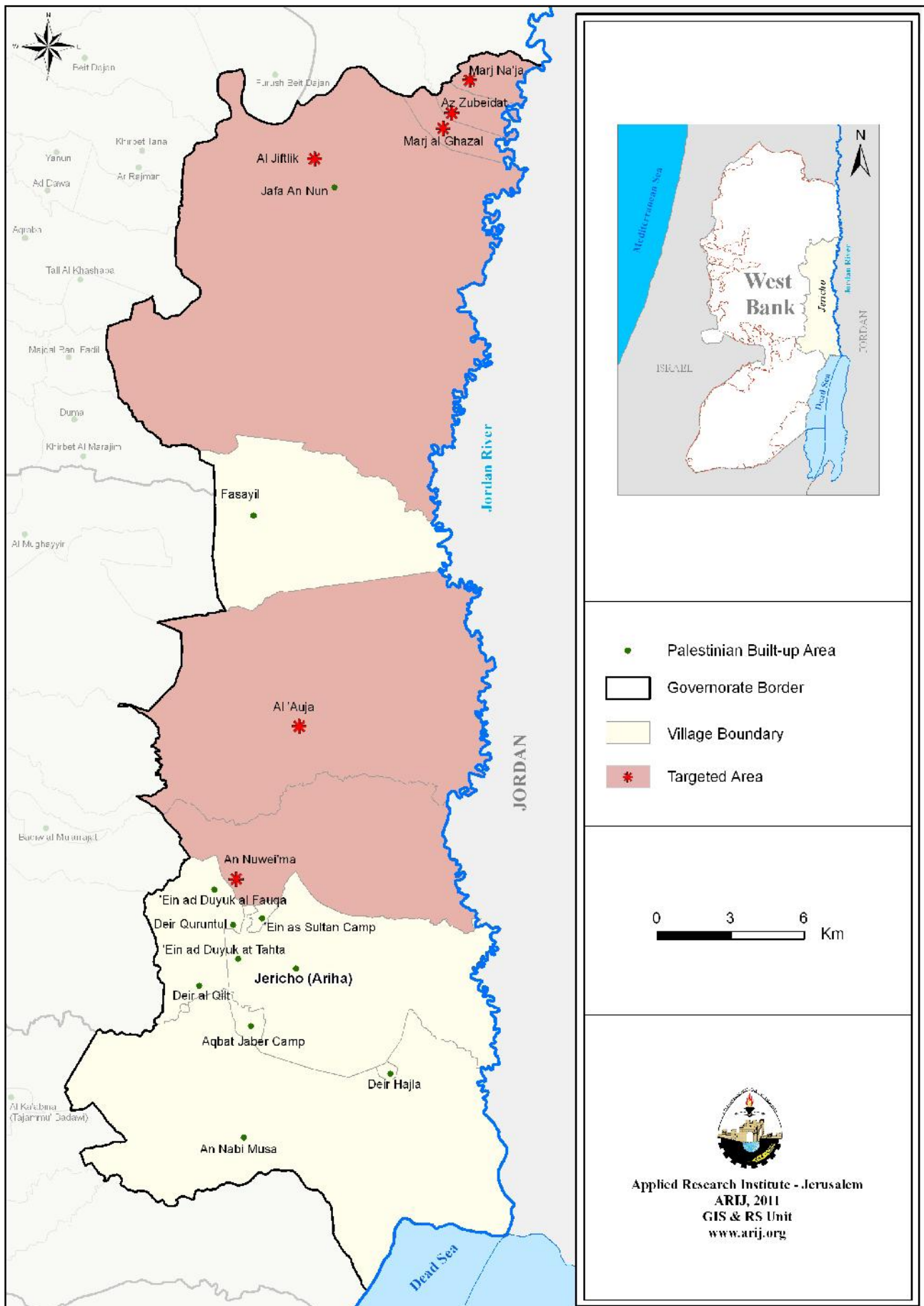
#### 6.4: Proposed Project for Roads Rehabilitation

<b>Project Title</b>	<b>Construction of New Agricultural Roads</b>																
<b>Project Duration</b>	12 months																
<b>Estimated Budget</b>	<p>The project will construct 51 km of agricultural roads, 4 meters in width, in 6 localities in the Jericho Governorate.</p> <p>The total budget is estimated at around <b>US \$ 5,304,000</b>.</p>																
<b>Stakeholders</b>	<p>The project stakeholders will be the Ministry of Agriculture (MoA), the Ministry of Local Government (MoLG), Ministry of Labor, UNDP, local and international agricultural associations and NGOs.</p>																
<b>Targeted Areas</b>	<p>The project will target six localities in the Jericho Governorate as follows:</p>																
	<table border="1"> <thead> <tr> <th>Community</th> <th>Construction and pavement Agricultural road (km)</th> </tr> </thead> <tbody> <tr> <td><b>Auja</b></td> <td>12</td> </tr> <tr> <td><b>New'meh</b></td> <td>15</td> </tr> <tr> <td><b>Zubeidat</b></td> <td>4</td> </tr> <tr> <td><b>Marj Ghazal</b></td> <td>5</td> </tr> <tr> <td><b>Marj Na'jeh</b></td> <td>8</td> </tr> <tr> <td><b>Jeftlik</b></td> <td>7</td> </tr> <tr> <td><b>Total</b></td> <td><b>51</b></td> </tr> </tbody> </table>	Community	Construction and pavement Agricultural road (km)	<b>Auja</b>	12	<b>New'meh</b>	15	<b>Zubeidat</b>	4	<b>Marj Ghazal</b>	5	<b>Marj Na'jeh</b>	8	<b>Jeftlik</b>	7	<b>Total</b>	<b>51</b>
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<b>Jeftlik</b>	7																
<b>Total</b>	<b>51</b>																
<b>Beneficiaries</b>	<p>The project will serve up to 64,459 dunums of the agricultural areas in six agricultural communities in Jericho Governorate, enhancing farmers' access to their lands, reducing production and transportation costs, improving access for farming vehicles, and facilitating better transport of products to markets.</p>																

<p><b>Project Description</b></p>	<p>Jericho Governorate forms a significant contributor to the Palestinian agricultural food basket. Therefore, there is a need to increase investment in this vital agro-economic area. Better physical infrastructure will enhance farmers' access to their lands and enable them to transport their products in less time, at cheaper cost and facilitating better quality. This will reduce production costs and increase farmers' profitability, assisting them to improve cultivation. The project will work with local authorities to open and pave up to 51 km of agricultural roads throughout the following localities: Auja, New'meh, Zubeidat, Marj Ghazal, Marj Na'jeh, and Jeftlik.</p> <p>The project will enhance access to 64,459 dunums of agricultural lands in the targeted communities. Additionally, it will generate 6,700 working days for opening, leveling, and paving the new roads.</p> <p>The road construction process will include designing, mapping, and opening, leveling, terracing, adding base-coarse, asphaltting, adding signs and painting the roads.</p> <p>This proposed project will complement the strategic plan of the MoA Shared Vision 2011-2013; especially under policy 5.2 which states the need to develop "policies targeting the effective and sustainable management of agricultural resources throughout the Palestinian territory". The policy also focuses on increasing and greening the area of agricultural land as well as constructing agricultural roads in order to prevent erosion or deterioration, protecting wildlife and agricultural biodiversity.</p>
<p><b>Project Objectives</b></p>	<ul style="list-style-type: none"> <li>• To enhance farmers' access to their lands in the Jericho Governorate.</li> <li>• To provide farmers with suitable road infrastructure to bring the machinery necessary to cultivate and manage their crops.</li> <li>• To assist farmers in getting services at cheaper prices through better road systems and easier access to lands.</li> <li>• To assist the farmers in marketing their agro-products at suitable times, enhancing food quality.</li> <li>• To assist farmers in reducing production costs and increasing their profitability.</li> <li>• To assist local authorities in implementing their master plans for the targeted communities.</li> <li>• Encouraging the participation of existing agricultural cooperatives.</li> </ul>

<p><b>Project Activities</b></p>	<ul style="list-style-type: none"> <li>• Communicate with local authorities in the targeted communities.</li> <li>• Form project community committees (steering committee and technical committee for each locality).</li> <li>• Discussing the existing road maps and master plans developed and approved by the local authorities.</li> <li>• Preparing the technical specifications for the road construction bid in full cooperation with local authorities.</li> <li>• Announcing the road bid in the local newspapers.</li> <li>• Selecting the bid winner(s) through a bidding committee formed from representatives of the project implementing organization, the local authorities, the MoA, and the project community committee.</li> <li>• Opening, leveling, adding base-course, and asphaltting the roads in targeted communities. The road will have a total length of 51 km and a width of 4 meters.</li> <li>• Road direction signs will be put in place and the roads will be painted.</li> <li>• Ensuring that the contractor (s) adheres to all technical specifications.</li> <li>• Supervising, monitoring, and evaluating the implementation process.</li> <li>• The project technical committee will approve the accomplishment of the construction works to finalize the project.</li> <li>• Preparing the final reports and disseminating the results.</li> </ul>
<p><b>Expected Results</b></p>	<ul style="list-style-type: none"> <li>• 51 km of agricultural roads constructed in Auja, New'meh, Zubeidat, Marj Ghazal, Marj Na'jeh, and Jeftlik localities in the Jericho Governorate.</li> <li>• 64,459 dunums of cultivated agricultural lands and arable lands will become more accessible to farmers.</li> <li>• 6,700 working days created during and after the implementation of the project.</li> <li>• Farmers will have increased access to machinery services and product transportation systems.</li> <li>• New arable lands will be cultivated.</li> <li>• Agricultural production and profitability in the targeted areas will be increased.</li> </ul>

Map 17: Targeted areas for agricultural roads rehabilitation- proposed project



## References

- Abu A'yash, A, et-al. 2007. 'Surveillance and Classification of Palestinian Forest Trees.' Prepared for the Arab Organization for Agriculture Development. Ramallah. Palestine.
- Ajlumi, S. 2003. 'The Palestinian Economy and the Second Intifada.' *Journal of Palestinian Studies* Vol. 32, No. 3.
- Applied Research Institute Jerusalem (ARIJ). 1995. 'Environmental Profile for the West Bank' Vol. 1: Jericho District. June, 1995. Jericho, Palestine.
- Applied Research Institute Jerusalem (ARIJ). 2004. 'Monitoring Israeli Colonizing Activities; Outposts- the unripe settlements' Available at: [http://www.poica.org/editor/case\\_studies/view.php?recordID=337](http://www.poica.org/editor/case_studies/view.php?recordID=337).
- Applied Research Institute Jerusalem (ARIJ). 2007. 'The Status of Environment in the West Bank and Gaza Strip.' Ghattas, R & Hazieneh, H. Chapter 10: Flora and Fauna. Bethlehem, West Bank.
- Applied Research Institute Jerusalem (ARIJ) – GIS Unit. 2008. 'Geo-informatics database.' Geo-information Department, ARIJ, Bethlehem, Palestine.
- Applied Research Institute - Jerusalem (ARIJ). 2010. 'Monthly Reports Database; Jericho, Palestine' June, 2010.
- Applied Research Institute Jerusalem (ARIJ) – GIS Unit. 2011a. 'Geo-informatics Database.' Geo-information Department, ARIJ, Bethlehem, Palestine.
- Applied Research Institute Jerusalem (ARIJ) – GIS Unit. 2011b. 'Land-use, Land-Cover Analysis, year 2010 with high resolution/0.5metre pixels' Geo-information Department, ARIJ, Bethlehem, Palestine.
- Applied Research Institute Jerusalem (ARIJ) – GIS Unit. 2011c. 'Jericho, Palestine; 2008 - 2010.' Geo-Informatics Department; Bethlehem, Palestine.
- Applied Research Institute Jerusalem (ARIJ) – GIS Unit. 2011d. 'The Geo-informatics Department Israeli Settlements Database'; Bethlehem, Palestine.
- Applied Research Institute Jerusalem (ARIJ) – GIS Unit. 2011e. 'The Geo-informatics Department Israeli Checkpoints Database'; Bethlehem, Palestine.
- Applied Research Institute Jerusalem (ARIJ) – UMD. 2011a. 'Israeli Violations in the occupied Palestinian Territory Database', ARIJ 1994-2011; Bethlehem, Palestine.
- Applied Research Institute Jerusalem (ARIJ) – UMD. 2011b. 'Settlements Database.' Urbanisation and Monitoring Department. Bethlehem, Palestine.
- Applied Research Institute - Jerusalem (ARIJ). 2012. 'Water and Environment Research Department Data Base.' Bethlehem. Palestine.
- Applied Research Institute Jerusalem (ARIJ) – WERU. 2012. 'Water and Environment Research Department database; selected indicators.' Bethlehem, Palestine.
- Applied Research Institute - Jerusalem (ARIJ) & Spanish Center for New water Technologies (CENTA), 2010. "A Proposed Environmentally Sound Wastewater Management System for the West Bank."
- B'TSELEM. 2011. Dispossession & Exploitation. Israel's policy in the Jordan Valley & northern Dead Sea.
- Bani Odeh, A. (2012, Jan 24). Data Sharing with ARIJ agricultural staff. (Ayed Abdul-Aziz, Interviewer).
- Bimonthly Publication of the Foundation for Middle East Peace (BPFMEP). 2004. 'Israel's Policy of "Creating Facts" wins over the Bush Administration.' Report on Israeli Settlement in the Occupied Territories (2004): May-June 2004.
- Available at : <http://www.fmep.org/reports/archive/vol.-14/no.-3/PDF>
- EWASH. 2011. Israel's violations of the International Covenant on Economic, Social and Cul-

tural Rights with regard to the human rights to water and sanitation in the Occupied Palestinian Territory.

- Freedman, D; Myers, A.; Beck, A. 2003. 'Eerdmans Dictionary of the Bible.' Wm. B. Eerdmans Publishing.
- Group Christian Volunteers (GVC) & Food and Agriculture Organization (FAO). 2011. 'GVC/FAO Database; Water Availability in Area C' retrieved January 2012 from: <http://www.gvcfao-database.org/>.
- Haaretz News. 2010. 'Ministers back proposal to make Jerusalem a national priority zone.' Published- 24.10.10. Available at: <http://www.haaretz.com/news/national/ministers-back-proposal-to-make-jerusalem-a-national-priority-zone-1.320931>
- International Committee of the Red Cross (ICRC). 1949. 'Geneva ... Time of War (Fourth Geneva Convention)'. 12 August 1949.
- Joint Council for Service, Planning and Development (JCspd) & for Solid Waste Management in Jericho and Jordan River Rift Valley (JJRRV). 2012. 'JCspd Data Base.' Jericho city, Palestine.
- Ministry of Health (MoH) & the Palestinian Health Information Center (PHIC). 2010. 'Health Status in Palestine 2008' September 2008 – midyear 2009. Ramallah, Palestine.
- Ministry of Health (MoH) & the Palestinian Health Information Center (PHIC). 2011. Health Report. Palestine. First Quarter. July, 2011.
- Ministry of Higher Education (MOHE). 2012. 'Schools Statistics of 2011/2012.' Ramallah, Palestine.
- Ministry of Tourism & Antiquities (MoTA). 2012. Planning Unit Database for the year 2011. Ramallah. Palestine.
- Ministry of Tourism and Antiquities (MoTA). 2012. 'Personal contact between ARIJ and the MoTA for data-sharing purposes.'
- New York Times. 2011. 'No Chance of Peace.' May 18th 2011. Available at: <http://www.ny-times.com/roomfordebate/2010/09/01/negotiating-with-the-israeli-settlers/no-chance-of-peace-with-settlements-around>.
- Palestinian Central Bureau of Statistics (PCBS), World Food Programme (WFP) & Food and Agriculture Organization (FAO). 2010. 'Average Food Prices, 2005-2009'. Ramallah, Palestine: 2005 - 2009.
- Palestinian Central Bureau of Statistics (PCBS). 1997. 'Population Census' final results by locality- 1997.' Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 1998. Agricultural Statistics- 1997/98'. Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2009a. Census Final Results – Summary (Population, Buildings, Housing, Establishments) - Jericho & Al Aghwar Governorate. Ramallah - Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2009b. 'Palestine in Figures 2008.' Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2009c. 'Palestinian Family Health Survey, 2008: Final Report.' Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2009d. 'Agricultural Statistics; various data' Ramallah, Palestine: December, 2009.
- Palestinian Central Bureau of Statistics (PCBS). 2009e. 'Population, Housing and Establishment Census 2007, Final Results - Housing Report – Jericho Governorate.' Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2009f. 'Population, Housing and Establishment Census 2007. Main Indicators by Locality Type.' Ramallah, Palestine.

- Palestinian Central Bureau of Statistics (PCBS). 2009g. Agricultural Statistics- 2007/8' Dec. 2009; Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2011a. 'Palestinians at the end of the year.' Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2011b. 'Agricultural Census-2010.' Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2011c. Jericho and Al Aghwar statistical yearly book (3), West Bank, Palestine
- Palestinian Central Bureau of Statistics (PCBS). 2012a. 'Labor Force Survey, Annual Report of 2011' .Ramallah, Palestine.
- Palestinian Central Bureau of Statistics (PCBS). 2012b. 'Labor Force Survey: (October-December, 2011) Round (Q4/2011)). Press Conference on the Labor Survey Results'. Ramallah, Palestine.
- Palestinian Hydrology Group (PHG). 2011. 'Water Master Plan for Jericho.'
- Palestinian National Authority (PNA). 2010. 'National Strategy for Solid Waste Management in the Palestinian territory (2010-2014).' Ramallah, Palestine.
- Palestinian Water Authority (PWA). 2007a. 'Water Quality in West Bank Report.' Ramallah, Palestine.
- Palestinian Water Authority (PWA). 2007b. 'Water Supply in the West Bank.' Ramallah, Palestine.
- Palestinian Water Authority (PWA). 2009a. 'The Palestinian Water and Wastewater sector, Basic needs and Development - Ongoing and proposed projects by Governorates.' Ramallah, Palestine.
- Palestinian Water Authority (PWA). 2009b. 'Water Supply and Consumption for the West Bank 2007.' Ramallah, Palestine.
- Palestinian Water Authority (PWA). 2011. 'Water Information System.' Ramallah – Palestine.
- UNRWA/UNICEF. 2010. Food Security and Nutrition Survey of Herding Communities In Area C Joint UNRWA – UNICEF –WFP Household Survey.
- WFP/ FAO/ PCBS. 2009. Socio-Economic and Food Security Report West Bank. 2009.
- WFP/ FAO/ PCBS. 2011. oPt 2010 Socio-Economic and Food Security Survey: West Bank and Gaza Strip, occupied Palestinian territory.
- WFP/ARIJ. 2010. Socio-Economic and Food Security Atlas: in the occupied Palestinian territory. February, 2010 Bethlehem. Palestine.
- معهد الأبحاث التطبيقية- القدس (أريج) (2011)، الانتهاكات الإسرائيلية والتدهور البيئي فيأريحا والأغوار، إلى أين!!! بيت لحم. فلسطين. ( Israeli viol tions and environmental deterioration in Jericho and Al Aghwar.' Bethlehem, Palestine

Annex I: Proposed Projects according to both ARIJ Survey and PRAs in Jericho Governorate by Locality

No.	Sector	Jiftlik	Marj Na'ja	Marjal Ghazal	Jericho	Fasayil	'Ein as Sultan Camp	Az Zubeidat	'Aqbat Jaber Camp	An Nuwei'ma and 'Ein Ad Duyuk al Foqa	Al 'Auja
Infrastructural Needs											
1	Opening and Pavement of Roads(km)	20km**	11.5 km	7.85km	-	1.7 km	5km	7 km	10km	37 km*&**	27km *&***
2	Rehabilitation of Old Water Networks (km)	8km	7 km	-	-	3 km	10km	2 km	-	-	-
3	Extending the Water Network to Cover New Built up Areas	8km	2 km	-	12 km	4 km	5km	1 km	-	2 km	10km
4	Construction of New Water Networks(km)	-	-	-	-	4 km	50km	500 m	-	5 km	-
5	Rehabilitation/ Construction of New Wells or Springs	2*	2 artesian wells	2 artesian wells	-	1 Spring **	1 spring ('Ein ad Duyuk)	2 artesian wells	1 spring	-	1 springs and 5 * artesian wells
6	Construction of Water Reservoirs (m3)	250	0	0	1000	10,000	1500		1000	1000	700
7	Construction of a Sewage Disposal Network(km)	-	10 km	2km	25km	5km	10km	5 km	10km	15 km	25km
8	Construction of a New Electricity Network(km)	-	-	-	-	4 km	5km	5km	5km	-	-
9	Providing Containers for Solid Waste Collection	8	10	8	-	50	100	25	-	30	50
10	Providing Vehicles for Collecting Solid Waste	1	0	0	-	1	3	-	1	-	1
11	Providing a Sanitary Landfill	0	0	0	-	-	-	-	-	-	-
12	Small-Scale Units for Treating Waste Water Treatment and Reuse for Irrigation(unit)	50*	5*	10*	-	10*&***	-	15*	-	20*	15*&***
Health Needs											
1	Building of New Clinics or Health Care Centres	1	0	1	0	1	1	1	1	2	1
2	Rehabilitation of Old Clinics or Health Care Centres	0	0	0	0	1	1	1	1	1	2
3	Purchasing of Medical Equipment and Tools	the radiology center & the dental clinic	-	-	-	Medical Laboratory	-	-	-	-	-



Educational Needs											
	Building of New Schools	elementary level	Female School	-	-	Primary Stage	all levels	-	-	Female High School	
1	Building of New Schools	-	-	-	-	Primary Stage	all levels	-	-	-	
2	Rehabilitation of Old Schools	-	-	-	-	Primary Stage	all levels	All Levels	1	two	
3	Purchasing of New Equipment for Schools	computer devices	-	-	-	Computer equipment	-	-	-	-	
Agriculture Needs											
1	Rehabilitation of Agricultural Lands (dunums)	200	-	20	-	300	-	150	-	-	1000
2	Building Rainwater Harvesting Cisterns	-	-	-	-	10*	3	0	-	2 artesian wells	20
3	Construction of Barracks for Livestock	200	7	10	-	20	-	70	-	50	30
4	Veterinary Services	-	-	-	-	-	-	-	-	-	-
5	Seeds and Hay for Animals (ton/year)	600	500	20	-	1500	-	500	500	1500	400,000
6	Construction of New Greenhouses	150	10	0	-	10	-	100	-	40	100
7	Rehabilitation of Greenhouses	-	3	3	-	10	-	30	-	15	80
8	Field Crops Seeds	-	-	-	-	-	-	-	-	-	-
9	Plants and Agricultural Supplies	-	-	-	-	-	-	-	-	-	-
10	beehives	30*	10*	20*	-	-	-	30*	15*	25*	20*
11	Establishment of Aquaculture	25 pool**	-	-	25 pools**	-	-	-	-	-	-
12	Distribute refrigerating units and packaging centers for farmers	50*&**	-	-	-	-	-	-	-	-	-

\* According to conducted PRA at Jericho Governorate

\*\* According to the Proposed Development Strategy for Jericho provided by Ministry of Agriculture-Jericho Directorate