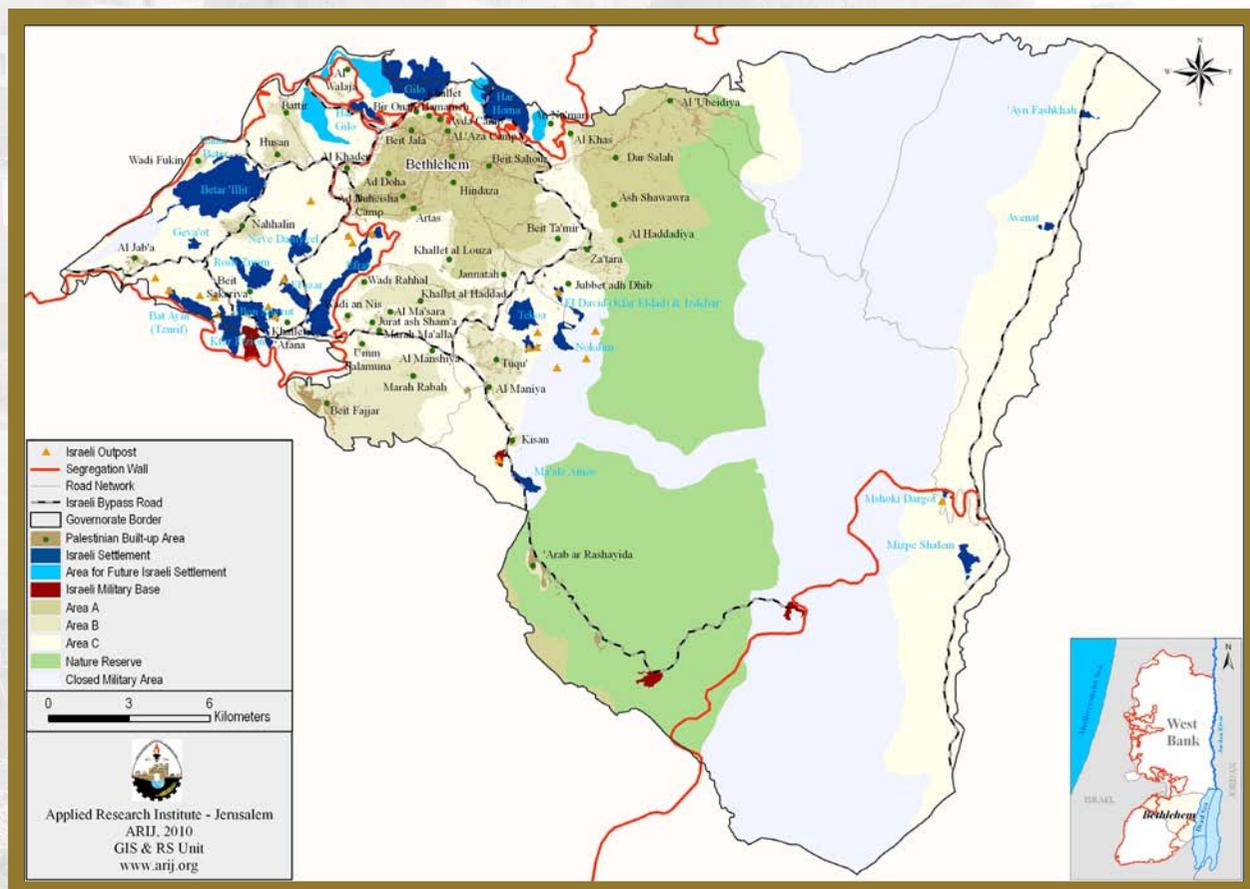


Locality Profiles and Needs Assessment in the Bethlehem Governorate



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The Applied Research Institute – Jerusalem (ARIJ)

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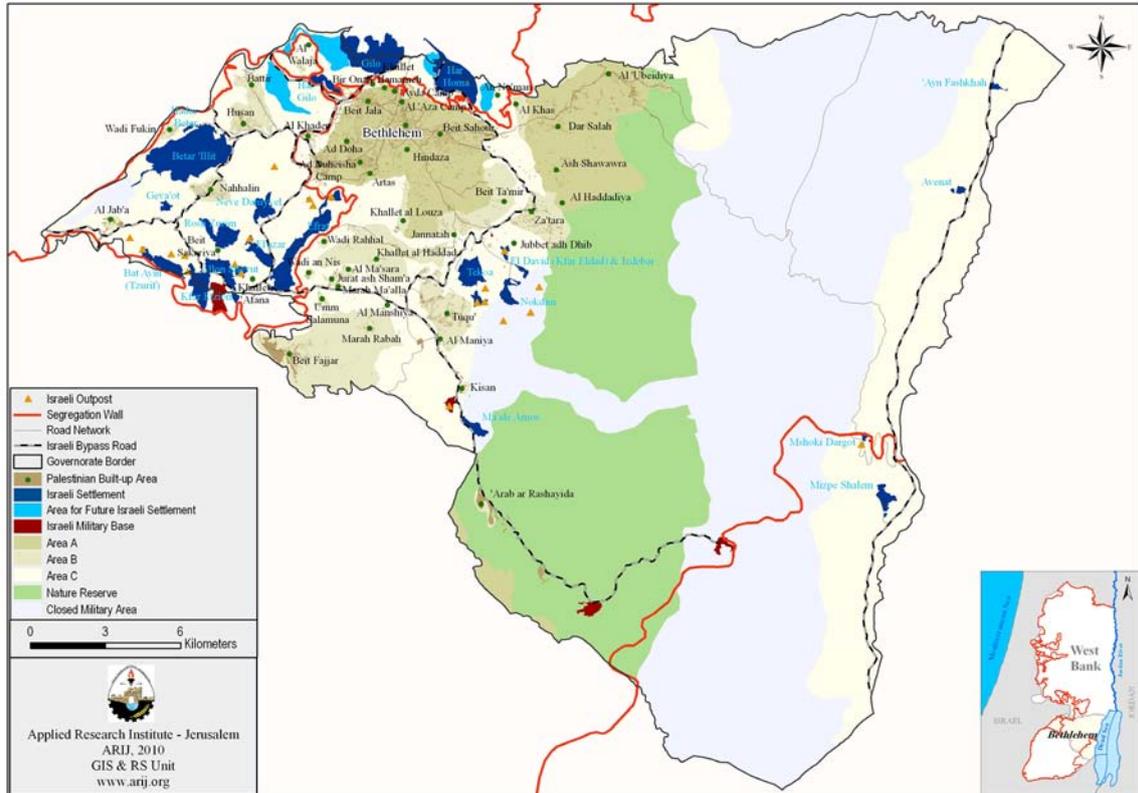
Spanish Cooperation



Azahar Program

2010

Locality Profiles and Needs Assessment in the Bethlehem Governorate



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PART ONE
Introduction

Locality Profiles and Needs Assessment in the Bethlehem Governorate

This book comes as a result of a comprehensive study of all localities in the Bethlehem Governorate. It aims at depicting the overall living conditions in the Governorate and presenting developmental plans to assist in developing the livelihood of the population in the area. It was accomplished through the ‘Village Profiles and Azahar Needs Assessment for the Bethlehem Governorate’ a project funded by the Spanish Agency for International Cooperation for Development (AECID) and the Azahar Program.

1.1. Project Description and Objectives:

The ‘Village Profiles and Azahar Needs Assessment for the Bethlehem Governorate’ was designed to study, investigate, analyze and document the socio-economic conditions and the needed programs and activities to mitigate the impact of the current insecure political, economic and social conditions in the Bethlehem Governorate. There was particular focus in the Azahar program objectives and activities on water, environment, and **agriculture**.

The project’s objectives were to survey, analyze and document the available natural, human, socio-economic and environmental resources; the existing limitations and developmental needs for the development of the rural and marginalized areas in the Bethlehem Governorate. In addition, the project aimed at preparing strategic developmental programs and activities to mitigate the impact of the current political, social, and economic instability with the main focus on the **agricultural sector**.

1.2. Project Activities:

1.2.1. Data Collection:

There are two different historical administrative boundaries for the localities in the Palestinian Territory. The first was set by the British during the Mandate of Palestine, while the second was set by the Israeli Authorities during the occupation of the Palestinian Territory. The Palestinian National Authority has adopted a third set of physical classifications since the year 1994. 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 and is more suitable for the Palestinian context.

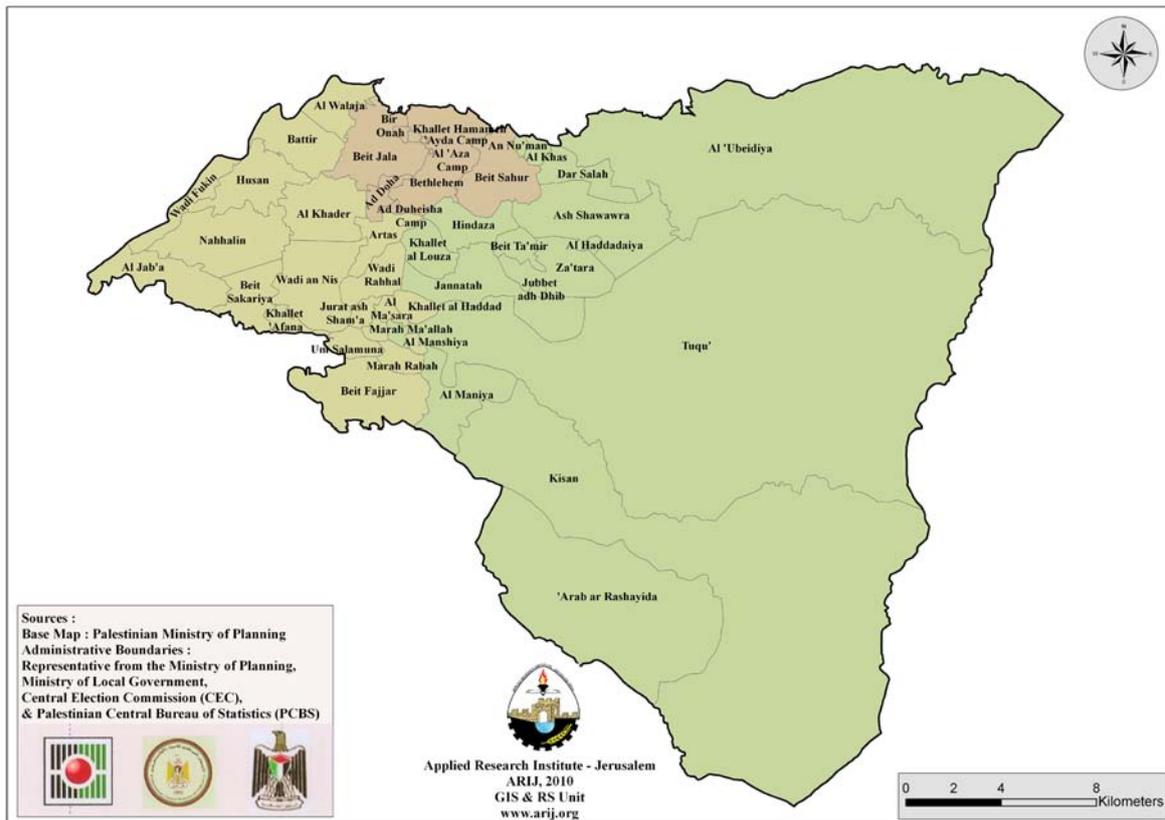
Generally, Bethlehem Governorate contains up to 73 different built up areas. According to the four Palestinian governmental bodies integrated physical classification system, the Bethlehem Governorate was divided into 45 localities which are identified under 40 main administrative boundaries. These 40 boundaries were classified into three main administrative regions as following: Joint Services Council for Eastern Rural Areas, Joint Services Council for Western & Southern Rural Areas, and Central Joint Council for Services, Planning and Development (Main Cities & Refugee Camps). The following table presents the different administrative boundaries by location and council (See also map 1).

Table (1): Name of Administrative Boundaries by Area¹

No.	Joint Services Council for Eastern Rural Areas	No.	Joint Services Council for Western & Southern Rural Areas	No.	Central Joint Council for Services, Planning and Development (Main Cities & Refugee Camps)
1	'Arab ar Rashaiyda	15	Al Jab'a	34	Ad Doha City
2	Al 'Ubeidiya	16	Al Khader	35	Beit Jala City
3	Al Khas & An Nu'man	17	Al Walaja	36	Beit Sahour City
4	Al Maniya	18	Al Ma'sara	37	Bethlehem City
5	Ash Shawawra	19	Al Manshiya	38	Ad Duheisha Refugee Camp
6	Beit Ta'mir	20	Artas	39	Al 'Aza Refugee Camp
7	Dar Salah	21	Battir	40	'Ayda Refugee Camp
8	Hindaza	22	Beit Fajjar		
9	Jannatah	23	Beit Sakariya		
10	Jubbet adh Dhib	24	Husan		
11	Kisan	25	Jurat ash Sham'a		
12	Khallet al Louza	26	Khallet al Haddad		
13	Tuqu'	27	Marah Ma'alla		
14	Za'tara	28	Marah Rabah		
		29	Nahhalin		
		30	Umm Salamuna		
		31	Wadi an Nis		
		32	Wadi Fukin		
		33	Wadi Rahhal		

¹ Some of the mentioned 40 localities include other small localities Bir Onah and Khallet Hamamah were included with Beit Jala, Al Had - adiya were included with Ash Shawawra, and Khallet 'Afana were included with, Beit Sakariya. Also, Al Khas & An Nu'man localities were considered as one locality.

Map (1): Localities' Administrative Boundaries



1.2.2. Data Analysis:

A community questionnaire was developed and filled by locality officials for all the Governorate localities under the supervision of the project specialists.

The data provided in the questionnaire, as well as other 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 (MOHE) and other related organizations were analyzed and put together in one village profile, which includes data about *Demography, History, Education, Health, Economy, Natural Resources, Agriculture, geopolitical conditions, Infrastructure, Institutions and Services.*

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

Forty locality profiles were developed, which include all large and small localities in the Bethlehem Governorate. In addition, each profile contains a list of each locality's developmental needs and priorities. This book contains the integrated information about Bethlehem Governorate, and needs for development and developmental project proposals on the Governorate level. The completed profiles of all communities with their fact sheets and their needs for development matrices are available on the internet (<http://proxy.arij.org/vprofile/Bethlehem>)

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 do a collective analysis, upon which all development plans will be based.

The aim of the Participatory Rapid Appraisal (PRA) was to learn from the communities, key persons and the institutions working for these communities about their knowledge, attitudes and practices concerning agriculture and the management of their natural resources to enable local people to assess these issues, and allow them to make their own plans to address them.

Forty PRAs took place in the villages' councils and municipalities, in addition to four PRA workshops on the Joint Service Council level (See Table 2); Three PRAs were conducted in ARIJ headquarters and one comprehensive meeting took place in the Governorate's headquarter. The collected data was documented and analyzed, and several developmental plans and projects were formulated. Forty English and forty Arabic village profiles were developed.

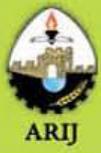
Table (2): Name of surveyed localities by type, population number and Administrative body

Administrative body	Type	Population	Locality
Municipality	Urban	10,753	Al 'Ubeidiya
Municipality	Urban	11,758	Beit Jala
Municipality	Urban	25,266	Bethlehem
Municipality	Urban	12,367	Beit Sahour
Municipality	Urban	9,753	Ad Doha
Municipality	Urban	9,774	Al Khader
Municipality	Urban	6,289	Za'tara
Municipality	Urban	5,416	Jannatah
Municipality	Urban	8,881	Tuqu'
Municipality	Urban	11,004	Beit Fajjar
Village Council	Rural	2,041	Al Walaja
Village Council	Rural	3,967	Battir
Village Council	Rural	173+394	Khallet Al Khas & An Nu'man
Village Council	Rural	3,373	Dar Salah
Village Council	Urban	5,551	Husan
Village Council	Rural	1,168	Wadi Fukin
Village Council	Rural	4,799	Hindaza
Village Council	Rural	3,737	Ash Shawawra
Village Council	Rural	3,663	Artas
Village Council	Urban	6,827	Nahhalin
Village Council	Rural	1,229	Beit Ta'mir
Village Council	Rural	896	Al Jab'a
Village Council	Rural	1,419	Wadi Rahhal
Village Council	Rural	803	Al Ma'sara
Village Council	Rural	772	Wadi An Nis

Administrative body	Type	Population	Locality
Village Council	Rural	1,491	Jurat ash Sham'a
Village Council	Rural	685	Marah Ma'alla
Village Council	Rural	945	Umm Salamuna
Village Council	Rural	1,320	Marah Rabah
Village Council	Rural	1,012	Al Maniya
Village Council	Rural	1,453	'Arab ar Rashayida
Refugee Camp Committee	Camp	2,631	'Ayda Camp
Refugee Camp Committee	Camp	1,529	Al 'Aza Camp
Refugee Camp Committee	Camp	8,736	Ad Duheisha Camp
Projects Committee	Rural	578	Khallet al Louza
Projects Committee	Rural	162	Jubbet adh Dhib
Projects Committee	Rural	185	Khallet Sakariya
Projects Committee	Rural	407	Khallet al Haddad
Projects Committee	Rural	433	Al Manshiya
Projects Committee	Rural	454	Kisan

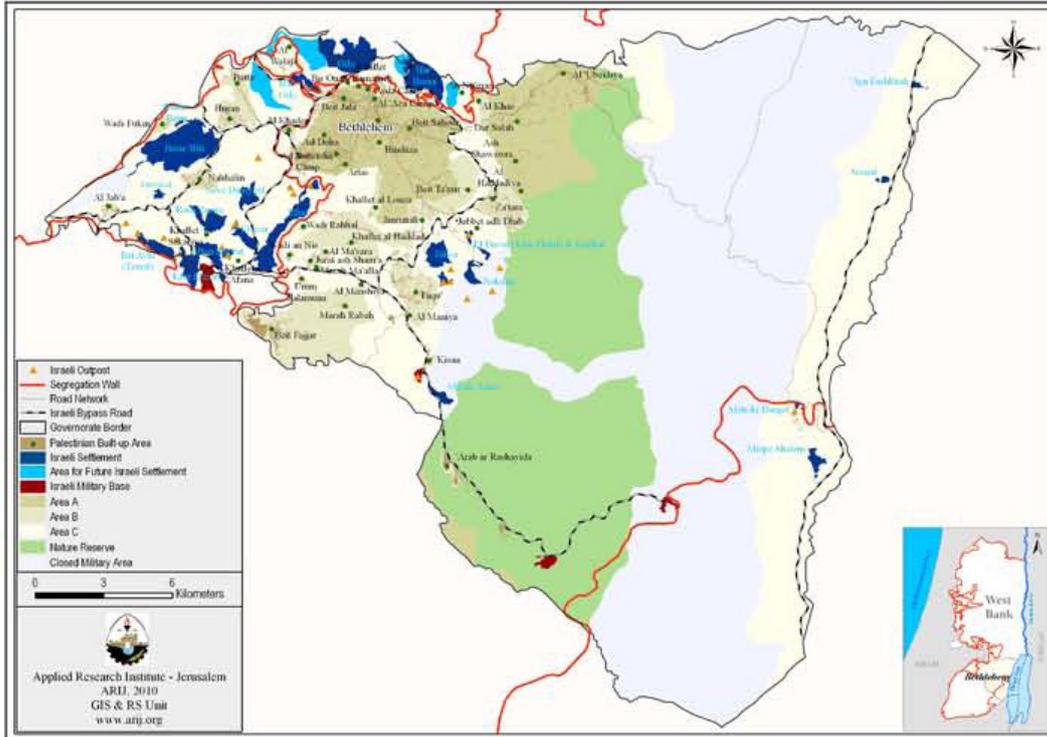
1.2.4. Internet Database:

The Computer and Information Technology (IT) unit in ARIJ developed a database for the Bethlehem Governorate locality profiles in the three following three languages: Arabic, English, and Spanish. All data was posted on the internet in a well organized and comprehensive database; easy to navigate and accessible to all. The profiles, maps, and fact sheets, 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/bethlehem/>



The Palestinian Community Profiles and Needs Assessment

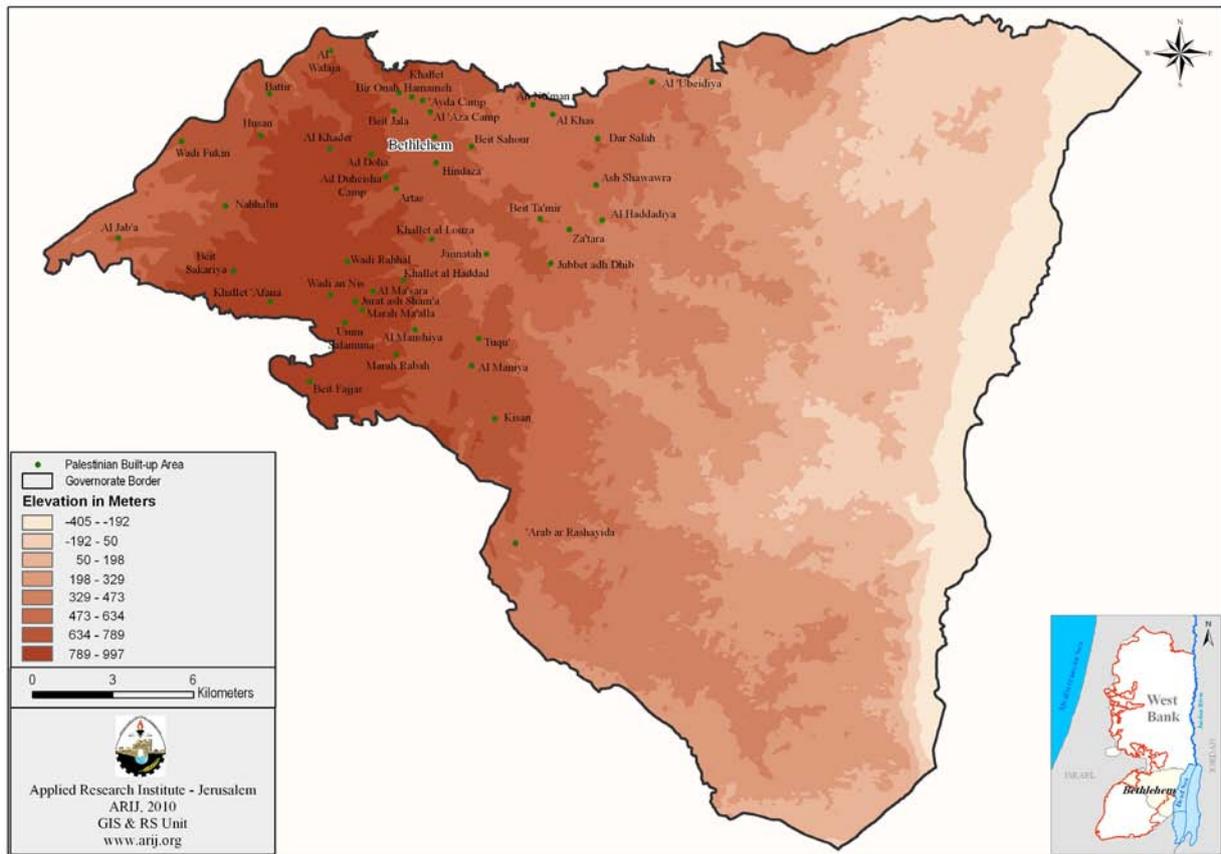
Hebron Governorate | Tubas Governorate | **Bethlehem Governorate**



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PART TWO:
Location, Physical Characteristics &
Socio-Economic Conditions
in the Bethlehem Governorate

Map (3): Topography of the Bethlehem Governorate

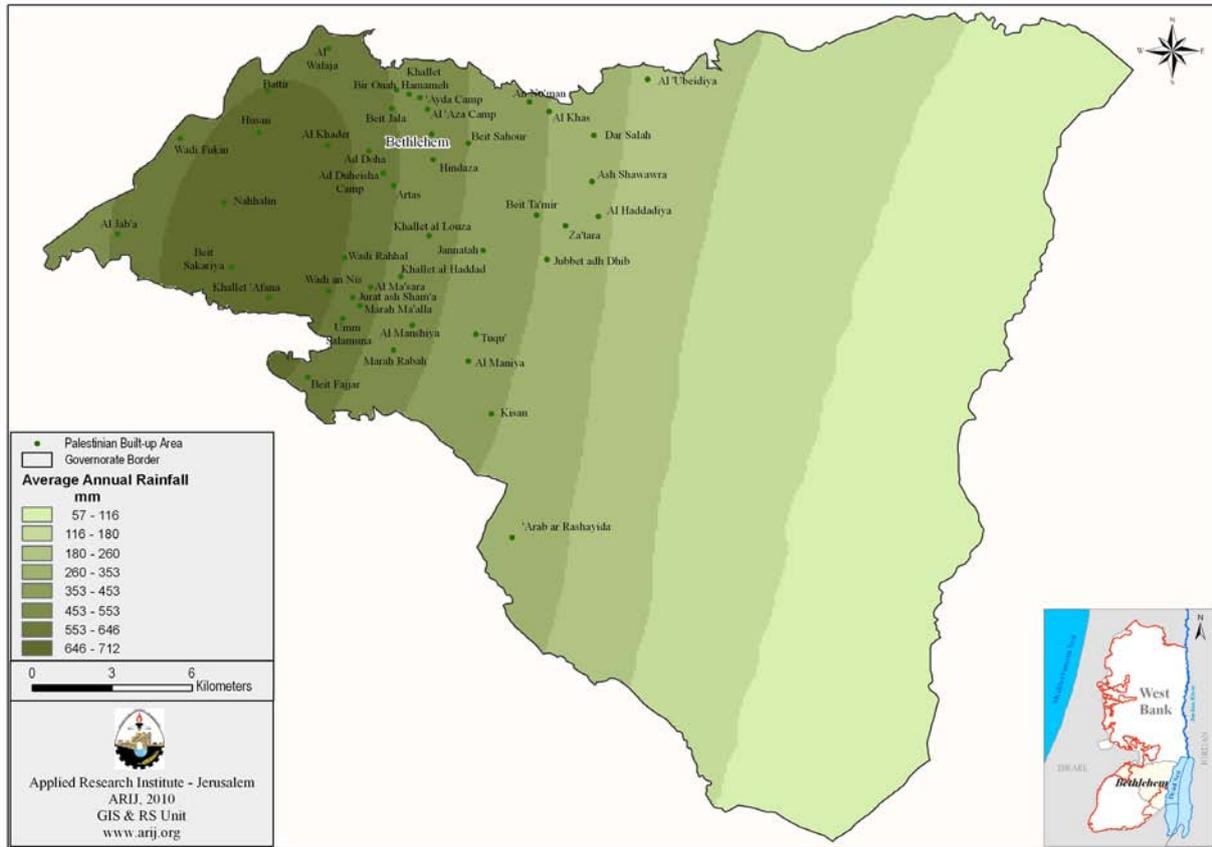


The climate of the Bethlehem Governorate ranges from semi-arid to arid with an increase in aridity levels towards the Jerusalem desert to the south and south-eastern direction.

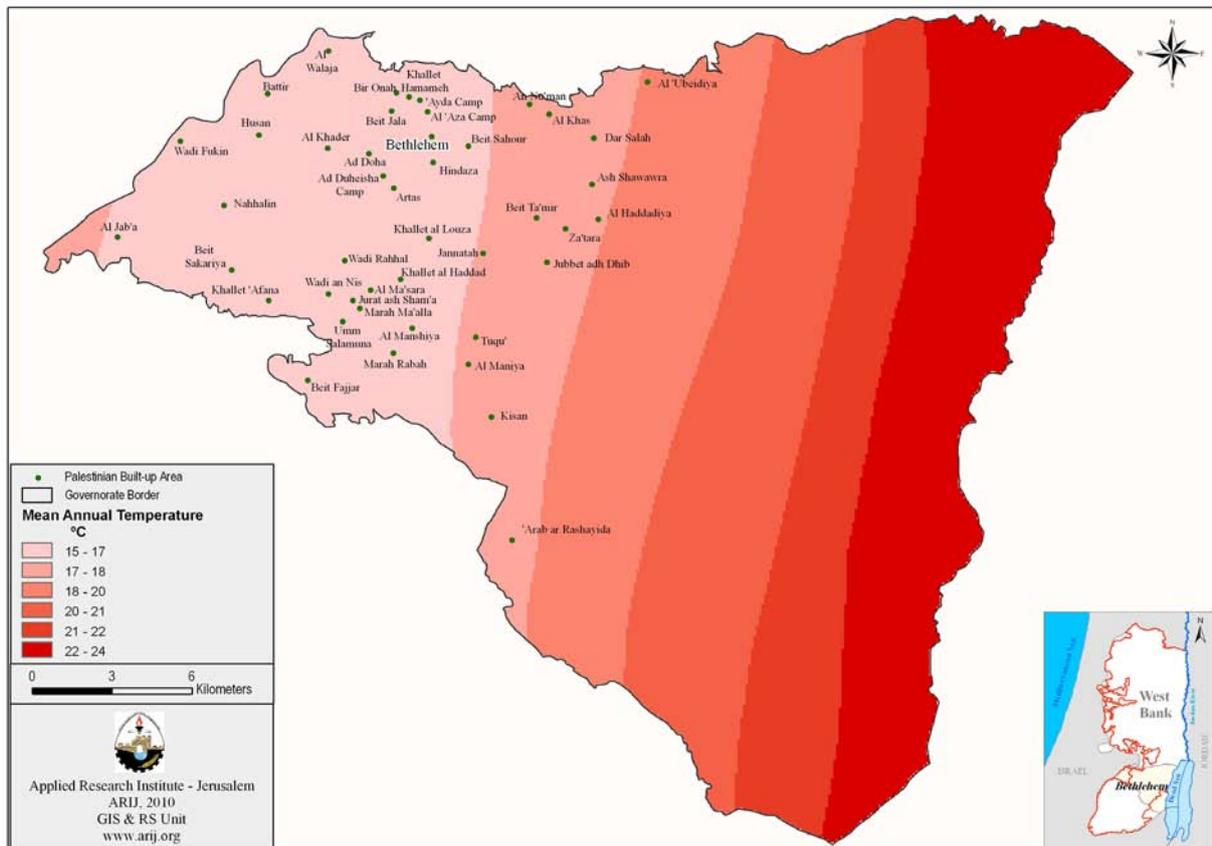
Summers in the Bethlehem Governorate are hot and dry, while the quantity of mean rainfall in the Bethlehem Governorate varies from year to year. The mean annual rainfall in the Bethlehem Governorate is 508mm noting that the western parts of the Governorate enjoy greater amounts of rainfall, snow and hail. Most of the rainfalls occurs during November through February, although there may be rain from mid-October to the end of April.

The average annual temperature in the Bethlehem Governorate is 16.57° C (ranging from 7 oC in the winter to 22 oC in the summer), and the average annual humidity is 60.36 percent (See maps 4 and 5) (ARIJ GIS Unit, 2009).

Map (4): Rainfall in the Bethlehem Governorate



Map (5): Temperature in the Bethlehem Governorate



2.2. Population

The total population of the Bethlehem Governorate in 2007 was 176,235, forming about 7.5 percent of the total population of the West Bank². Table (3) compares the population of the Bethlehem Governorate in 1997 and 2007.

Table (3): Total Population of the Bethlehem Governorate in 1997 and 2007

Years	1997			2007		
	Male	Female	Households	Male	Female	Households
Bethlehem Governorate	70,238	67,048	22,743	89,743	86,493	32,667
Total Population	137,286			176,236		

(PCBS 2009, Population, Housing and establishment, Census -2007, Final Results)

According to the PCBS classification³ for the types of the Palestinian communities and the 2007 census, about 70.2% of the population in the Bethlehem Governorate live in urban areas, and 22.5% of the population live in rural areas, while 7.3% live in refugee camps (See table (4)). The Bethlehem Governorate consist of 10 municipalities, the major ones being Bethlehem, Beit Jala, Beit Sahour, Ad Doha, Al Khader, Al 'Ubeidiya, Beit Fajjar, Tuqu', Za'tara and Jannatah, in addition to several village councils and project committees, and three camp committees.

Table (4): Total Population of the Bethlehem Governorate by Type of Locality and Sex, 2007

Type of Locality	Male	Female	Total
Urban	62,893	60,746	123,639
Rural	20,320	19,380	39,700
Camp	6,530	6,366	12,896
Total	89,743	86,493	176,236

(PCBS 2009, Population, Housing and establishment, Census -2007, Main Indicators by Locality Type, 2009)

The 2007 PCBS Census showed that 39.3% of the population in the Bethlehem Governorate were less than 15 years of age, while 54.9% were in the age group 15-64, and 3.7% were 65 years old and above. The sex ratio in the village was 103.8 males for every 100 females with males constituting 50.9% of the population and females 49.1 percent (See table (5)).

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

3 *An urban area is any locality whose population amounts to 10,000 persons or more. This applies to the entire Governorates' centers 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 network, a post office, a health center with a full-time physician and a school offering a general secondary education certificate.

*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).

Table (5): Total Population of the Bethlehem Governorate by Age Group and Sex, 2007

Sex	Age Group (Years)				Total
	0-14	15-64	65+	Not stated	
Male	33917	47965	2778	1890	86,550
Female	32811	45294	3521	1790	83,416
Total	66,728	93,259	6,299	3,680	169,966

(PCBS 2009, Population, Housing and establishment, Census -2007, Final Results)

2.3. Labor Force

In terms of economy, the Bethlehem Governorate registered the highest unemployment rate among the West Bank Governorates, which reached 20.2% in 2009 compared with an average of 17.8 per cent for the West Bank. The labor force forms 48.2% of the population. The average daily wage is up to US\$ 23. See table 6 (Palestinian Central Bureau of Statistics, 2010a).

Table (6): Labor Force Participation Rate, Unemployment Rate and Average Daily Wage in NIS for Wage Employees in the Bethlehem Governorate, 2009

Governorate	Labor Force Participation Rate	Unemployment Rate	Average Daily Wage in NIS for Wage Employees
Bethlehem	48.2	20.2	86.8

- The workers in the Israel and Settlements are excluded.
- Palestinian Central Bureau of Statistics, 2010. Labor Force Survey: Annual Report: 2009.

The annual report of the labor force survey for the year 2009 showed that the services and other branches of the economic sector ranked first in the number of working persons with 33,1% followed by the construction sector with 18.1%, then mining, quarrying and manufacturing with 16%, and commerce, restaurants and hotels ranked fourth with 15.7%. The agriculture, hunting and fishing economic sector ranged fifth with 13.1% as listed in table 7 (Palestinian Central Bureau of Statistics, 2010a).

Table (7): Percentage Distribution of Employed Persons from the Bethlehem Governorate by Economic Activity, 2009

Economic Activity	Governorate	
	Bethlehem	West Bank
Agriculture, Hunting and Fishing	13.1	13.7
Mining, Quarrying and Manufacturing	16.0	14.5
Construction	18.1	15.6
Commerce, Restaurants and Hotels	15.7	19.4
Transportation, Storage and Communication	4.0	5.7
Services and Other Branches	33.1	31.1
Total	100	100

Palestinian Central Bureau of Statistics, 2010. Labor Force Survey: Annual Report: 2009. Ramallah – Palestine

According to the distribution of employed persons by employment sector during the first quarter of the year 2010, the private sector has the biggest share of employed persons in the Bethlehem Governorate followed by the public sector, while 10.2% of the labor force in the Bethlehem Governorate works in Israel and other Israeli settlements. See table 8

Table (8): Percentage Distribution of Employed Persons Aged 15 Years and Above in the Bethlehem Governorate by Sector (ILO Standards), January-March, 2010

Governorate	(%) Sector				Total
	Public Sector	Private Sector	Other Sectors	Israel and Settlements	
Bethlehem	12.2	73.7	3.9	10.2	100
West Bank	15.9	66.2	2.6	15.3	100

(Labor Force Survey (January-March, 2010) Round (Q1/2010))

The 2007 PCBS census in the Bethlehem Governorate showed that 71.1% of the population was within the working age group (10 years and above). Of the 120,845 people within the working age range (10 years and above), approximately 41,169 (34.1%) were economically active (in the labor force), and 79,335 (65.7%) were not economically active (outside the labor force). Of the economically active, 83.9% were males. The largest groups within the non-economically active population were students and housekeepers, constituting 53.3% and 34.3% of that population respectively. Table (9) shows the labor force statistics in the Bethlehem Governorate in 2007.

Table (9): Bethlehem population (10 years and above) by sex and employment status, 2007

Sex	Economically Active				Non Economically Active						Not Stated	Total
	Employed	Currently Unemployed	Unemployed (Never worked)	Total	Students	Housekeepers	Unable to work	Not working & Not looking for work	Other	Total		
M	28,379	4,008	2,161	34,548	20,908	86	4,037	565	1,170	26,766	228	61,542
F	5,778	316	527	6,621	21,385	27,123	3,423	202	436	52,569	113	59,303
T	34,157	4,324	2,688	41,169	42,293	27,209	7,460	767	1,606	79,335	341	120,845

(PCBS 2009, Population, Housing and establishment, Census -2007, Final Results)

2.4. Educational Status

According to the 2007 PCBS census, 5.7% of residents were illiterate; women comprised a greater percentage (70.6%) of the illiterate population than men (29.4%). Of the literate population, 13.2% could read and write, 23.7% had completed elementary education, 28.1 percent had completed preparatory education, 17.4 percent had completed their secondary education and only 11.8% had achieved a higher education. Table (10) shows the education status in the Bethlehem Governorate by sex and educational attainment in 2007.

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

Sex	Educational Attainment											Total
	Illiterate	Can read and write	Elementary	Preparatory	Secondary	Associate Diploma	Bachelor	Higher Diploma	Master	PhD	Not Stated	
M	2,018	8,115	15,351	17,894	10,815	2,201	4,060	179	601	231	77	61,542
F	4,840	7,780	13,306	16,079	10,243	2,360	4,174	112	261	42	106	59,303
T	6,858	15,895	28,657	33,973	21,058	4,561	8,234	291	862	273	183	120,845

(PCBS 2009, Population, Housing and establishment, Census -2007, Final Results)

The Bethlehem Governorate is one educational directorate; the governmental sector has the biggest share of schools in the Bethlehem Governorate, which is about 75.5% of the total number of schools.

There are three refugee camps in the Bethlehem Governorate. There are 7 schools administered by the UNRWA. Two of these schools are for males, four are for females and one is co-educational. The private sector has the smallest portion in the educational system in the Bethlehem Governorate. There are 29 private schools; 25 of them are coeducational.

Table (11): Distribution of Schools in the Bethlehem Governorate by Supervising Authority and Gender, 2008/2009

Directorate	Government				UNRWA				Private				Grand Total			
	M	F	Co-ed	Total	M	F	Co-ed	Total	M	F	Co-ed	Total	M	F	Co-ed	Total
Bethlehem Governorate	39	39	33	111	2	4	1	7	2	2	25	29	43	45	59	147

M: Male, F: Female, Co-ed: Coeducation (MOHE, Schools Statistics of 2008/2009)

The Palestinian community is a young community, and this is true for the Bethlehem Governorate as well. Among the students in the Bethlehem Governorate, 73.5% attend governmental schools, and 17.5% attend the private schools, whereas only 9% attend the UNRWA schools. There is no big difference between the participation of females and males in the educational system. Female students constitute 50.5 %, while males constitute 49.5 % of students in the Bethlehem Governorate.

Table (12): Distribution of Students in the Bethlehem Governorate by Supervising Authority and Gender, 2008/2009

Directorate	Government			UNRWA			Private			Grand Total		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Bethlehem Governorate	18,420	18,969	37,389	2,036	2,540	4,576	4,732	4,189	8,921	25,188	25,698	50,886

M: Male, F: Female, Co-ed: Coeducation (MOHE, Schools Statistics of 2008/2009)

There is a shortage of classrooms in the Bethlehem Governorate, and many schools have a 2 shifts system. Furthermore, the classes are overcrowded. In the governmental sector there are 29.5 students per class. In the UNRWA schools there are 34.4 students per class, and in the private sector there are 23.6 students per class.

Table (13): Distribution of Classes in the Bethlehem Governorate by Supervising Authority and Gender, 2008/2009

Directorate	Government				UNRWA				Private				Grand Total
	M	F	Co-ed	Total	M	F	Co-ed	Total	M	F	Co-ed	Total	
Bethlehem Governorate	480	501	286	1,267	53	70	10	133	44	46	288	378	1,778

M: Male, F: Female, Co-ed: Coeducation (MOHE, Schools Statistics of 2008/2009)

2.5. Health Status

There are 36 health care centers in the Bethlehem Governorate, and 47 percent of these centers are run by the governmental sector (See table (14)). There are also 2 general hospitals and another 3 maternity hospitals. However, most of these are located in Bethlehem city (See table (15)). All hospitals are located in the northern parts of the Governorate. People from small and distant villages face great difficulties in reaching to these hospitals.

Table (14): Distribution of Public Health Care Centers in the Bethlehem Governorate by Provider, 2008

Total Population	Providers			Total	Population per Center
	MOH	NGOs	UNRWA		
178,853	17	17	2	36	4,968

(MOH-PHIC, Health Status in Palestine 2008, Sept 2008)

Table (15): Hospitals in the Bethlehem Governorate by Location, Supervising Authority and Number of Beds, 2009

Hospital Name	Location	Supervising Authority	No. of Beds
GENERAL HOSPITALS			
Beit Jala (Al Hussein)	Bethlehem City	MOH	117
Al Yamamah	Bethlehem City	Private	17
SPECIALIZED HOSPITALS			
Bethlehem (Psychiatric)	Bethlehem City	MOH	200
REHABILITATION HOSPITALS (Centers)			
Arab Rehabilitation Society	Beit Jala City	NGO	72
MATERNITY HOSPITALS			
Shepherds Field	Bethlehem City	NGO	18
Ad Dibs	Bethlehem City	Private	10
Holy Family	Bethlehem City	NGO	63

(MOH-PHIC, Health Status in Palestine midyear 2009)

As for the medical staff in the Bethlehem Governorate, data is only available for the governmental sector. Tables (16) and (17) show the numbers of health care staff, in 2008, in the 2 MOH Hospitals and in the 17 Public Health Care Centers across the Governorate.

Table (16): Number of Health Care Staff in the Bethlehem Governorate's MOH Hospitals, 2008

Hospital	General Physicians	Specialist Physicians	Dentist	Pharmacists	Nurses	Mid-wives	Health Workers	Para-medical	Administrations	Total
Bethlehem (Psychiatric)	9	1	0	1	79	0	0	11	44	145
Beit Jala (Al Hussein)	32	28	0	5	108	5	0	28	64	270

(MOH-PHIC, Health Status in Palestine 2008, Sept 2008)

Table (17): Number of Health Care Staff in the Bethlehem Governorate's Public Health Care Centers, 2008

General Physicians	Specialist Physicians	Dentist	Pharmacists	Nurses	Mid-wives	Health Workers	Para-medical	Administration	Total
15	6	4	7	42	5	0	19	49	147

(MOH-PHIC, Health Status in Palestine 2008, Sept 2008)

Statistics in 2009 showed that the Infant Mortality Rate (IMR) in the Bethlehem Governorate has declined to 0.6 percent. The average IMR in the West Bank reached 0.7% in 2009.

Table (18): Infant Mortality Rate in the Bethlehem Governorate in Midyear 2009

Live Births	Infant Deaths					Infant Mortality Rate
	Male	%	Female	%	Total	
2,438	6	2.8	8	3.8	14	0.6

(MOH-PHIC, Health Status in Palestine midyear 2009)

The final results of Population, Housing and Establishment Census of 2007 showed that the number of persons in the Bethlehem Governorate who have at least one disability was 8,823. See table (19) for the number of people with special needs and type of difficulty.

Table (19): Number of People with Special Needs in the Bethlehem Governorate by type of difficulty, 2007

Type of Difficulty					Total
Communication	Cognition	Moving	Hearing	Seeing	
1,237	1,197	3,467	2,584	4,696	13,181

(PCBS 2009, Population, Housing and establishment, Census -2007, Final Results)

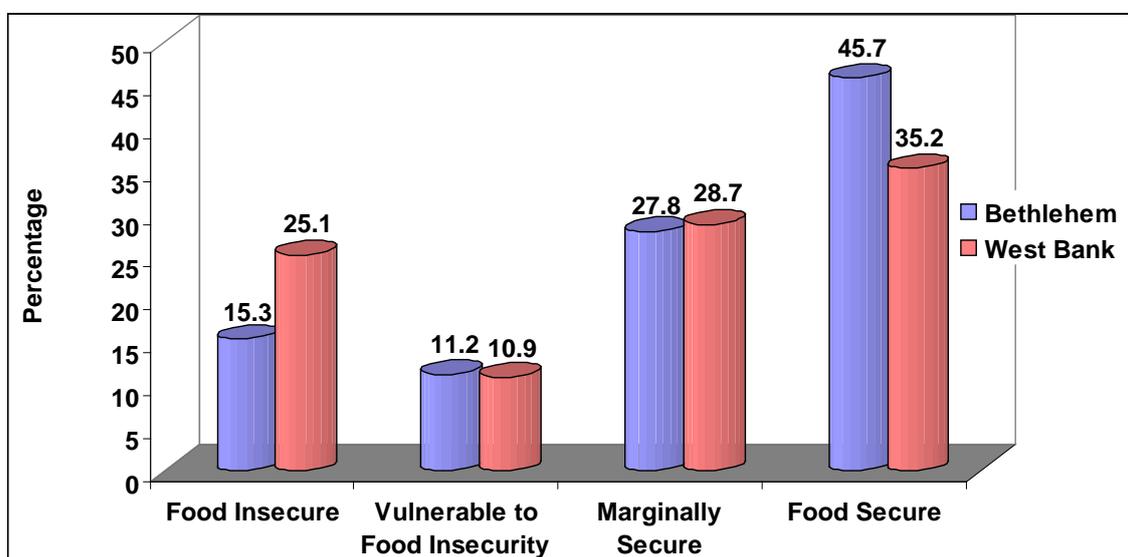
2.6. Poverty and Food Insecurity:

The specifics of the historical and political context in the Bethlehem Governorate have set the parameters for the current economic, social, and food security situation of the Governorate's population. To understand the causes behind deteriorating livelihood conditions in Bethlehem, the economy, demography, agriculture, nutrition, health, environment, and food-security sectors should be considered. The basic causes of food insecurity translate into underlying and immediate causes of poverty and food insecurity at the household level. These causes include limitations on food availability, negative effects on agricultural production, food trade/market supplies, insufficient economic access

to food, artificially high prices but few opportunities to secure employment and higher household incomes; and 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 economical status of the Bethlehem Governorate is deteriorating. Approximately 15.3% of households in the Bethlehem Governorate were found food-insecure during the second trimester of 2009, (FAO/WFP, 2009) in comparison to 25% in the West Bank. This represents nearly 26,964 food-insecure people, with another 19,738 persons who are vulnerable to food insecurity (11.2%); 48,993 persons are marginally secure (27.8%), and 80,539 persons are food secure (45.7%) (Figure 1 below). Food-insecure households in the Bethlehem Governorate are unable to secure sufficient income to meet their essential food and non-food requirements⁴ mainly due to the lack of income-earning possibilities. This status is causes families to decrease their intake of food items in terms of quality and quantity, and it is worsened by the impoverishment process that started in 2000.

Figure 1: Food Security Levels in the Bethlehem Governorate, 2009



Palestinians' food insecurity is rooted in the limitations to food access, as a subset of consumption poverty. Food availability per se is not the most critical issue at present in the oPt. As food production is very limited, households' economic access to food available on local markets is the main issue in the oPt (FAO/WFP, 2009). Loss of business and jobs is synonymous with greater pressure on the breadwinners to cover their food and non-food expenditures. The Palestinian agricultural sector plays an essential role in the economy and food security of Palestine and in the livelihood of its people. However, for a variety of historical, climatic and political reasons, most of the rural areas remain underdeveloped and efforts to improve farmers' conditions have not been sufficient. The Segregation Wall and Israeli military checkpoints have prevented farmers from accessing and working in their fields and marketing their produce. Most of the rural Palestinian population in the subsistence or traditional farming sector suffers from misery, unemployment, insufficient food and poverty.

On the other hand, farmers living in the marginalized areas in the Bethlehem Governorate are mostly affected by the present situation of food insecurity. Poor and under-empowered farmers are centered

⁴ 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.

in the southern areas of the West Bank, having low productivity and access to a limited diversity of crops and varieties due to drought, limited water resources and low soil fertility.

The current geo-political restrictions, significant increase in food prices, shrinking incomes and high unemployment rates have jeopardized the household economy and led to heavy indebtedness and changes in eating habits. Previously self-reliant families are progressively falling into the poverty trap and are unable to escape from their situation in the absence of job opportunities. Unemployment reached 20.2% in Bethlehem in the year 2009 (in comparison to 17.8% in the West Bank), where the daily nominal wage is NIS 86.8 per day per capita (*Palestinian Central Bureau of Statistics, 2009a*).

However, 17.2 percent of the Bethlehem population are unpaid family members. It is worth noting that 85.2 percent of Bethlehem inhabitants work in the Bethlehem Governorate itself, 5.3 percent work in other Governorates of the West Bank, and 9.5 percent work in Israel and Israeli settlements (*Palestinian Central Bureau of Statistics, 2009a*).

Furthermore, the PCBS census in the year 2007 showed that the Bethlehem Governorate has a large average family size equal to other West Bank Governorates with 5.4 persons per household. The average of the West Bank was 5.5 persons per household. These large families increase food consumption and household expenses. Up to 36 percent of the Palestinians in the Southern West Bank (Bethlehem and Hebron Governorates) are suffering from poverty and hardship. Of these 36 percent, most live in rural areas where low productivity and limited access to a wide variety of crops exists. Poverty and deep poverty in the year 2007 stood at 23.6 percent and 3.2 percent in the West Bank respectively (*Palestinian Central Bureau of Statistics, 2009b*).

Food-price increases have significantly worsened the food-security situation of households in the Bethlehem Governorate, as a high share of household expenditures (46.2%) goes toward food. Between 2005 and 2009 the price of several food commodities, mainly rice, flour, lentils, and red meat, increased significantly in the Bethlehem Governorate by 80.9%, 73 percent, 55.5% and 45.7% respectively (*PCBS & WFP, 2005-2009*). Fruits and vegetables are the only groups of food items that experienced only a small rise in prices over the same period.

Palestinians are increasingly being forced to rely on negative coping mechanisms. The combination of decreased incomes and increased food prices has forced the poorer households to change their food consumption patterns. Almost 35.5 percent of the Bethlehem Governorate residents reduce their food expenditures as a main coping strategy, forcing these families to buy fewer food items and to substitute normal foods with cheaper/less desirable items. Food reduction mainly on quantity of meat purchased/consumed reaches up to 38.2 percent of the Bethlehem Governorate households that have adopted this strategy. However, even if the 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.

As a consequence, children are the 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. Conversely, the effects of malnutrition on individuals can result in micronutrient deficiencies in young children, which are known to delay growth. Accordingly, Iron deficiency anemia affected approximately 35

percent of children and 25.8 percent of pregnant women in the Bethlehem Governorate in mid-year 2009, compared to 45.2 percent and 27.5 percent, respectively in the West Bank (*PCBS, 2009*).

The climate of the Bethlehem Governorate ranges from arid to semi-arid with an increase in aridity towards south and east parts. The mean annual rainfall in the Bethlehem Governorate is 513mm/year. The year 2007/08 witnessed lower rainfall than usual and it was a drought year as only 316.4mm of rainfall was received which formed 61% of the average annual rainfall. The year 2010 was better in its rainfall amounts reaching to 479.1mm. However it is still lower than the average annual rainfall by 7%. These drought conditions create additional obstacles to the level of family food security and their income as most of the agriculture production in Bethlehem is subsistence agriculture. Furthermore, most of the people who had lost their work in Israel began farming their lands to produce food for their families and generate income. It is worth mentioning that 15.2% of the formal employees of the Bethlehem Governorate in the year 2009 were employed in the agricultural sector compared with 11.6% in the year 2000.

Additionally, the Bethlehem Governorate is facing water scarcity especially during the summer. People find themselves forced to purchase water through water tanks which costs them 20-25 NIS per cubic meter of water compared with 4 NIS from the public water network. Purchasing water through water tanks increases the vulnerability of the poor families and exposes them to bad health conditions. Consequently, Bethlehem Governorate is facing a real water deficit in its allocated water budget; for example its real deficit reach up to 4.07 Million Cubic Meters in the year 2007 (*Palestinian Water Authority, 2007*). All these factors are limiting the wealth and livelihood of the people, deepening the poverty of marginalized people and increasing the vulnerability of Palestinian households.

PART THREE:
Agricultural & Environmental Status
in the Bethlehem Governorate

3.1. Land Use/ Land Cover

The Palestinian agricultural sector serves a population of about 3.8 million Palestinians, acting both as an economic base and as the main source of food for the Palestinians. During the past eight years, the agricultural sector in the Occupied Palestinian Territories has proven itself to be the most appropriate sector for dealing with emergencies erupting as a result of the extreme Israeli measures that were carried out against the Palestinian people during the Second Palestinian Intifada in 2000.

In the Bethlehem Governorate, 13.1% of the labor force work in agriculture (*Palestinian Central Bureau of Statistics, 2010a*). The total area of the Bethlehem Governorate is estimated to be 659,111 dunums, with nearly 621,748 dunums of agricultural land; of which 54,627 dunums are permanent crops, 42,323 dunums are seasonal crops, and 199 dunums are protected agriculture (See table 20 and map 6) (*ARIJ GIS Unit, 2008*).

Map (6): Land use / Land cover in the Bethlehem Governorate and Segregation Wall Route, 2008

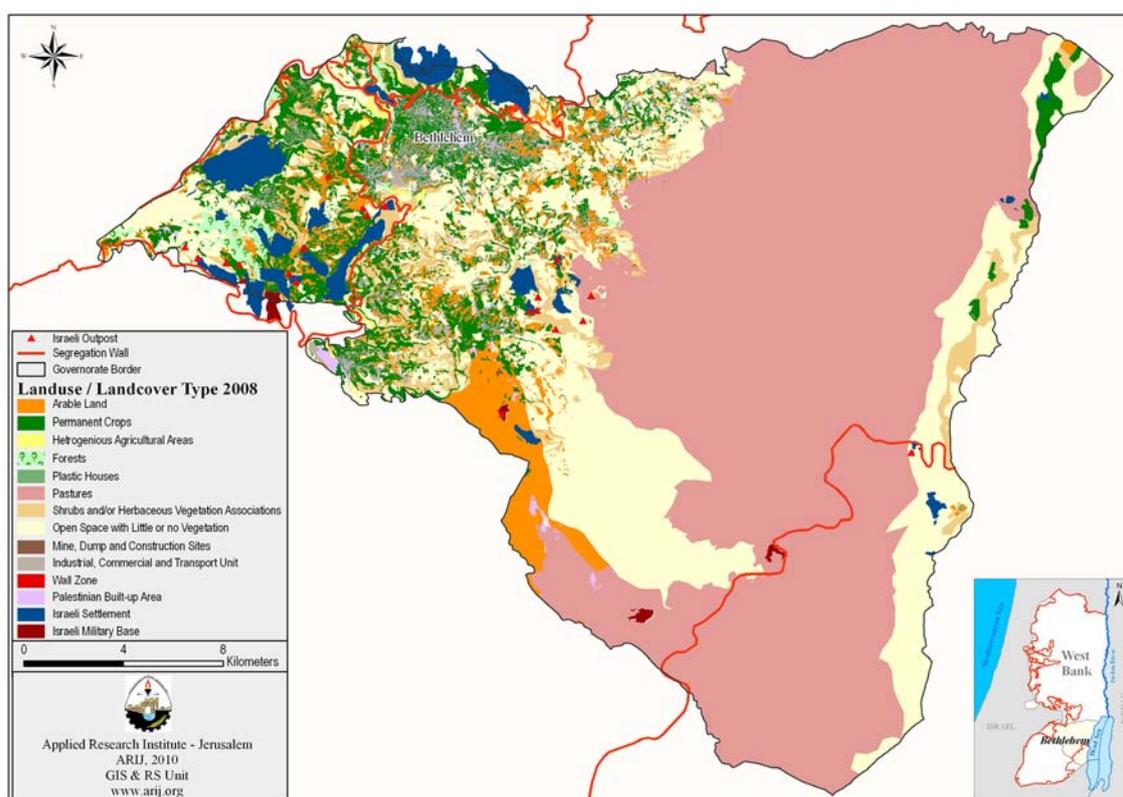


Table (20): Land Use/ Land Cover in the Bethlehem Governorate, 2009

Land use / Land cover Type	Area in Dunum
Agricultural Land	621748
Industrial, Commercial and Transport Unit	9466
Wall Zone	260
Palestinian Built-up Area	9715
Israeli Settlements	17301
Israeli Military Base	536
Mine, Dump and Construction Sites	85
Total Area	659111

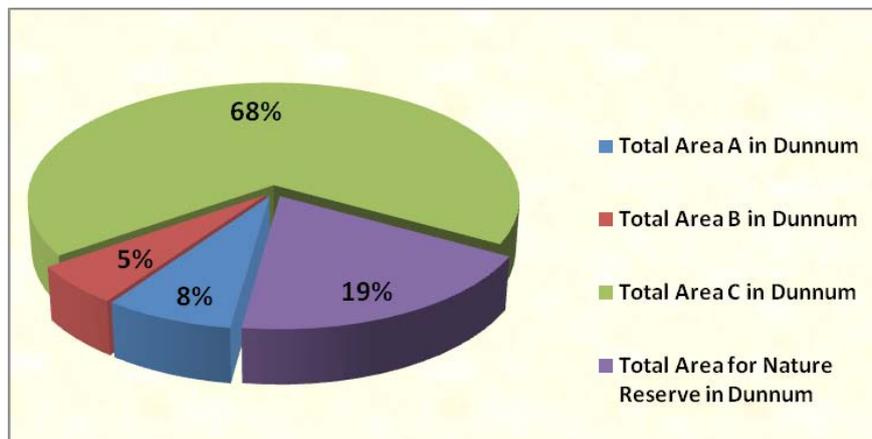
*Dunum = 1,000 m² = 0.1 Hectare

(ARIJ GIS Unit, 2008)

Nonetheless, due to Israeli restrictions, less than 50 percent of the land in the Bethlehem Governorate is open to Palestinian farmers for utilization (See figure 2, and see map 7 in section 4.1).

The Israeli Segregation Wall surrounds the Bethlehem Governorate from the northern, western & southern parts with 80.4km length, thus, enclosing an area of about 176,054 dunums of the Bethlehem Governorate, of which 157,864 dunums are agricultural (ARIJ GIS Unit, 2008)

Figure (2): Percentage of Land in the Bethlehem Governorate According to the Geopolitical Classification of Oslo II



3.2. Agricultural Activities

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

The Bethlehem Governorate constitutes 2.87% of the value of agricultural production in the Palestinian Territory, of which 0.92% is plant production and 1.95% is livestock production (PCBS, 2009c).

3.2.1. Plant Production

The total cultivated area in Palestine is usually categorized into 'Fruit Trees', 'Vegetables', and 'Field Crops and Forages'. The major area of plant production is rain-fed. However, irrigation is used in some parts.

According to the PCBS, the total area of plant production in the Bethlehem Governorate in the agricultural year 2007/2008 reached 55,714 dunums with total plant production of 16,144 tons and a total value of US \$12,565 thousand. Compared to the year 1997/1998, we notice a decrease of approximately 2.95 percent in the total planted area, a 6.43 percent decrease in total production, and a 0.69 percent decrease in the total production value (PCBS, 2009c).

Furthermore, rain-fed agriculture is dominates in the Bethlehem Governorate, and it formed 96.8% of the cultivated area in the year 2007/2008, with total production reaching 8,475 tons, which is approximately 56.3% of the total agricultural production. However, although the irrigated area formed only 3.2 percent, its production was approximately 6,566 tons, which constituted 43.6 percent of the total production.

Thus, agriculture in the Bethlehem Governorate is mainly dependent on rainfall and is vulnerable to limited annual precipitation or bad distribution of rainfall. To sustain this viable sector, coping plans and strategies should be developed to mitigate the impact of low precipitation and bad distribution of rainfall, which has become very noticeable during the last couple of years.

Fruit Trees Production

During the 2007/2008 season, the total cultivated area of fruit trees in the Bethlehem Governorate reached 43,174 dunums, of which 3 percent was un-bearing. Only 0.57 percent of the cultivated area with fruit trees in the Bethlehem Governorate was irrigated, whereas 99.43 percent of the total cultivated fruit trees area was rain-fed.

The total production of fruit trees reached 8,118 tons with a total value of US \$7,237,000. Olive production constitutes most of the fruit production, making up to 60.4 percent of fruit trees area in the Bethlehem Governorate, followed by grapes with 30.4 percent. Compared to the year 1997/1998, we notice an increase of approximately 18.4 percent in the total area planted with fruit trees, a 16.3 percent decrease in total production, and approximately a 23.66 percent decrease in the total production value.

As shown in Table (21), olive trees, plum trees and grape vines are the highest cultivated fruit trees in the Bethlehem Governorate. Most fruit trees are rain-fed, except for nectarines, lemons, peaches and certain types of grapes

Table (21): Area, Yield and Production of Fruit Trees in the Bethlehem Governorate by Crop and Type, 2007/2008

Crop	Bearing				Unbearing		Total Area	Production
	Rainfed		Irrigated		Rainfed Area	Irrigated Area		
	Area	Yield	Area	Yield				
Olive	25250	30			837		26087	758
Grape	12552	484	250	1500	321		13123	6450
Almond (Hard)	1375	200			28		1403	275
Plum	741	300			62		803	222
Apricot	612	200			27		639	122
Peach	315	200			10		325	63
Apple	304	300			18		322	91
Almond (Soft)	255	200			5		260	51
Fig	150	400					150	60
Pears	39	300					39	12
Quince	21	300					21	6
Pistachio					11		11	
Pomegranate	2	2000			5		7	4
Aloe	2	2000					2	4
Total	41618		250		1324		43192	8118

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

(PCBS, Agricultural Statistics, December 2009)

Vegetables Production

The results of the agricultural year 2007/2008 indicated that about 2420 dunums of cultivated land were used for vegetable production in the Bethlehem Governorate. Of vegetables cultivated area 26.5% was rain-fed while the rest was irrigated (73.5%) including around 213 dunums of greenhouses. The total production of vegetables reached 7516 tons with a total value of US \$5,020,000.

Compared to the year 1997/1998, there was a decrease of approximately 62.7 percent in the total area planted with vegetables, an increase of 395 percent in the total area of greenhouses, a 66.2 percent decrease in total production, and approximately an 88.15 percent increase in the total production value.

Table (22) shows the vegetable production in the Bethlehem Governorate. Cucumbers, tomatoes and cauliflowers are the main crops of vegetables produced, comprising 41.5 percent of the total vegetable areas in the Bethlehem Governorate.

Table (22): Area, Yield and Production of Vegetables in the Bethlehem Governorate by Crop and Type, 2007/2008

Crop	Rainfed		Irrigated		Plastic House		Total Area	Production
	Area	Yield	Area	Yield	Area	Yield		
Tomato	166	500	305	4000	30	14000	501	1723
Snake Cucumber	326	400					326	130
White Cabbage			323	5000			323	1615
Squash	104	300	208	800			312	198
Cucumber			71	700	181	9859	252	1834
Cauliflower			251	4500			251	1130
Eggplant			148	3500			148	518
Kidney Bean (Green)			63	1000	2	2000	65	67
Onion (Green)			41	1100			41	45
Cowpea	12	150	22	900			34	22
Okra	34	120					34	4
Broad Bean (Green)			33	1700			33	56
Spinach			27	1200			27	32
Radish			22	2000			22	44
Lettuce			16	1600			16	26
Turnip			15	2000			15	30
Gourd			6	3400			6	20
Paprika			5	900			5	5
Parsley			3	800			3	2
Pumpkin			3	3500			3	11
Hot Pepper			3	1200			3	4
Total	642	1470	1565	39800	213		2420	7516

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

(PCBS, Agricultural Statistics, December 2009)

Field Crops and Forages Production

In the 2007/2008 ago-production season, about 10,082 dunums of land in the Bethlehem Governorate were used for rain-fed field crops and forage crops production, where only 20 dunums were irrigated. The total production of field crops and forages reached 510 tons with a total value of US \$308,000.

Compared to the year 1997/1998, there was a decrease of approximately 28.1% in the total area planted with field crops and forages; however, we notice a decrease of approximately 66.2% in the total production, with a 63.6% decrease in the total production value.

Barley and wheat production comprised 85.3 percent of the total field crops and forages area (See table 23).

Table (23): Area, Yield and Production of Field Crops and Forages in the Bethlehem Governorate by Crop and Type, 2007/2008

Crop	Rainfed		Irrigated		Total Area	Production
	Area	Yield	Area	Yield		
Barley	4470	50			4470	224
Wheat	4150	55			4150	228
Vetch	450	20			450	9
Lentil	365	20			365	7
Sern	351	25			351	9
Chick Peas	280	25			280	7
Thyme	1	150	15	1400	16	21
Local Tobacco	9	6			9	0
Sage	6	100	2	500	8	2
Mint			3	1100	3	3
Total	10082		20		10102	510

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

(PCBS, Agricultural Statistics, December 2009)

3.2.2. Livestock Production

The total production of livestock in the Bethlehem Governorate during the agricultural year 2007/2008 reached 3,186 tons of meat (red and white), 7,060 tons of milk, 21 million of egg and 10 tons of honey.

The value of livestock production in the Bethlehem Governorate during the agricultural year 2007/2008 registered approximately US \$26,676 thousand with a decrease of 51.88% compared to the year 1997/1998. The contributions of these sectors from the total livestock production value of the Bethlehem Governorate were as follows: 59.4% meat, 31.2% dairy and 7.3% eggs.

Compared to the year 1997/1998, there was an increase of approximately 40 percent on the total production value of meat (white and red), 46 percent on the total production value of milk, and 950 percent on the total egg production value. Additionally, there was a decrease in the honey production value by 8.45%.

Table (24): Number of Cattle by Strain, Sex and Age in the Bethlehem Governorate compared to the Total in the Palestinian Territories, 2007/2008

Region	Local Cattle					Friesian Cattle					Grand Total
	Cows	Calves	Heifer	Bulls	Total	Cows	Calves	Heifer	Bulls	Total	
Bethlehem	-		-	-	-	62	12	15	3	92	92
Palestinian Territories	2,910	918	838	185	4,651	16,504	7,141	4,310	380	28,335	32,986

(PCBS, Agricultural Statistics, December 2009)

Sheep and Goats Production

The total number of sheep in the Bethlehem Governorate during the agricultural year 2007/2008 reached 50,538 heads, whereas the number of goats reached 37,864 heads. The total number of small ruminants in the Bethlehem Governorate formed 8.7 percent of the total number of small ruminants in the Palestinian Territories. The total value of the production of sheep and goats combined (meat and milk) reached in 2008 approximately US \$24,184,000.

Compared to 1997/1998, there was a decrease of approximately 8.84 percent and an increase of 39.77 percent in the total number of sheep and goats and their total value of production, respectively.

See table (25) for types and numbers of goats and sheep in the Bethlehem Governorate and in the Palestinian Territories.

Table (25): Number of Sheep and Goats in the Bethlehem Governorate compared to the Total in the Palestinian Territories, 2007/2008

Governorate	Goats			Sheep		
	Local	Other	Total	Local	Other	Total
Bethlehem	27,057	10,807	37,864	37,013	13,525	50,538
Palestinian Territories	274,888	47,194	322,082	453,554	235,345	688,899

(PCBS, Agricultural Statistics, December 2009)

Poultry Production

The total number of poultry in the Bethlehem Governorate during the agricultural year 2007/2008 was 645,000 birds, constituting 2.12% of the total poultry production in the Palestinian Territory. There were 556 thousand of broiler birds and 89,000 of layer birds, with a total value of production (meat & eggs) at approximately US \$4,235,000.

Compared to the year 1997/1998, there was an increase of approximately 6.92 percent and 790 percent in the total number of broilers and layer birds, respectively. However, the total value of production for layer birds and broilers increased by 147.3 percent.

Table (26) compares the total layer and broiler birds in the Bethlehem Governorate and in the Palestinian Territories in the agricultural year 2007/2008.

Table (26): Number of Broilers and Layers in the Bethlehem Governorate compared to the Total in the Palestinian Territories, 2007/2008

Governorate	Poultry numbers in thousands	
	Layers	Broilers
Bethlehem	89	556
Palestinian Territories	2695	27682

(PCBS, Agricultural Statistics, December 2009)

Beehives Production

The total number of beehives in the Bethlehem Governorate in 2008 reached 3252 including 3222 modern beehives and 30 traditional beehives, with an approximate total value of production of US \$130,000 (See table 27).

Compared to 1997/1998, there was an increase of approximately 79.76 percent and a decrease of 8.45 percent in the total number of Beehives and their total value of production, respectively.

Table (27): Number of Beehives in the Bethlehem Governorate compared to the Total in the Palestinian Territories, 2007/2008

Region	Beehives		
	Modern	Traditional	Total
Bethlehem	3,222	30	3,252
Palestinian Territories	63,782	2,951	66,733

(PCBS, Agricultural Statistics, December 2009)

3.3. Forestry

The forested area in the southern part of the West Bank is a rich base for biological diversity since it is a habitat for diverse types of forests including planted, natural and mixed forests and accordingly diverse plant and animal species. There are almost 18,352 dunums of forests in the southern West Bank, comprising 25% of total forest area in the entire West Bank (ARIJ Geo-Informatics Department, 2010). The southern part of the West Bank is administratively identified to include only two Governorates including the Bethlehem and Hebron Governorates. Currently, there are almost 4,966.9 dunums of forested areas in the Bethlehem Governorate, comprising 7.3% of the total forested area in the West Bank (ARIJ Geo-Informatics Department, 2010) and playing a crucial role in landscape and green-coverage preservation and watershed protection in the oPt.

Forests in the Bethlehem Governorate are mainly planted forests with homogenous coniferous plantation (ARIJ Geo-Informatics Department, 2010). The dominant plant species and associations in Bethlehem forests are mainly deciduous and evergreen shrubs and trees, which include the pine tree (*Pinus halapensis*, *Pinus Brutia*), the Italian cypress (*Cupressus sempervirens*), the Palestine oak (*Quercus calliprinos*), the terebinth tree (*Pistacia Palaestina*), the mastic tree (*Pistacia lentiscus*), the carob tree (*Ceratonia siliqua*, the Palestine buckthorn (*Rhamnus lycioides* subsp. *graeca* (palaestinum)), the eastern strawberry tree (*Arbutus andrachne*, the azarole (*Crataegus aronia* (azarolus)) and the officinal storax (*Styrax officinalis*).

Bethlehem forests are distributed all over the Governorate and characterised by their Mediterranean ecosystem. The climate tends to be semi-humid to semi-dry going from west to east in the Gov-

ernorate, which provides suitable environments for the growth of a variety of plant species. Most of the Bethlehem forests are located on fertile soil types (Terra Rossa, Brown Rendzina, and Pale Rendzina) and in areas that enjoy favourable climatic conditions for agriculture. Bethlehem forests enjoy the diversity of forest types since two types of forests are found including Planted Coniferous Forest, and Scelrophyllous Oak Forest and Maquis. Bethlehem forests are also habitat to many wild animals including jackals, foxes, hyenas, hedgehogs, rats, mice, squirrels, snakes, geckos and lizards, and many birds and insects. There is a great and clear interrelationship among plant and animal life in the Bethlehem forest.

Most of Bethlehem's forested areas are governmental lands; however, only 3.78% of the forested areas are located in geopolitical Area A, where forests are under the control of the Palestinian Authority and fully managed by the Ministry of Agriculture (MoA); 3.83% of forested areas are located in geopolitical Area B, where the MoA has partial authority but no control over effective management actions; and 92.39% of forested areas are located in geopolitical Area C, where the forests are under Israeli control and the MoA has no management authority (*ARIJ Geo-Informatics Department, 2010*).

Currently, 645 dunums of forested areas of the Bethlehem Governorate have been confiscated by Israel and isolated behind the Segregation Wall, forming almost 13 percent of the total forested area in the Bethlehem Governorate (*ARIJ Geo-Informatics Department, 2008*), despite the fact that this forest was a well-known habitat for several endangered wild plant and animal species.

3.4. Water Resources

The renewable water resources in the Bethlehem Governorate consist primarily of groundwater resources. The Governorate is located above the Eastern and Western Basins of the West Bank Aquifer system. There are 15 major springs in the Bethlehem Governorate, which can be divided into 3 systems, namely Battir spring system, Artas spring system and Ein Fashkha spring system. The estimated quantity of discharged water from these springs for the year 2008 reached approximately 0.346 MCM. This water is primarily used for agricultural purposes, and only 0.01 MCM is used for domestic purposes.

Drinking water resources in the Bethlehem Governorate are divided into two main sources, namely: (1) local resources from the groundwater wells, (2) purchased resources from the Israel National Water Company "Mekorot". The local water resources consist of the 8 PWA wells which were drilled by the Palestinian Water Authority (PWA) to supply the Bethlehem and Hebron Governorates with water, and the Beit Fajjar well which is owned by the Water Supply and Sewerage Authority (WSSA). The purchased water from Mekorot is derived from three different resources, namely the West Bank Water Department (WBWD) wells, Mekorot wells inside the West Bank, and Mekorot wells outside the West Bank (Table 28).

Table 28: Wells in the Bethlehem Governorate by Ownership and Amount Produced in 2008

Resources	Owned by	Production MCM
Beit Fajjar well	WSSA	0
PWA well 1	PWA	1.541
PWA well 11		1.170
PWA well 3		0.360
PWA well - Hindaza		1.867
Al 'Eizariya well 1		0.571
Al 'Eizariya well 2		1.107
Al 'Eizariya well 3		0.702
JWC well 4		0.908
Herdion well 4	WBWD	1.071
Herdion well 5		0
Beit Sahour wells 2	Mekorot	No data available
<i>Source : PWA 2009</i>		

The Water Supply and Sewerage Authority (WSSA) is considered the main body that manages the water supply in the Governorate. WSSA supplies water to approximately 120 thousand people which represent 65 percent of the total population living in Bethlehem, Beit Jala, Beit Sahour, Ad Duheisha camp, 'Aida camp and Al 'Aza camp and some urban communities. In the remaining communities, the WBWD is responsible for providing water supply services. In 2008, a total of 9.74 MCM of water was supplied to the Palestinian population in the Bethlehem Governorate (*PWA, 2009*), of which, approximately 81 percent was purchased from "Mekorot" and supplied to the Palestinian through WBWD, while 19 percent was provided from the local resources (Table 29). Although all communities in the Bethlehem Governorate are served by the water network, it should be noted that in many cases, the water network coverage in these communities may not be complete (partial coverage). There are 16 neighborhoods with about 45,200 residents (25 percent of the total population) who are not served by the water network (*PWA, 2009a*). These neighborhoods are completely dependent upon water tankers, rainwater collection system and agricultural wells and springs.

Table 29: Available Water and Supplied Quantities According to the Sources

Resources	Supplied Quantities MCM	
Local Resources	Beit Fajjar well	0
	PWA wells (1, 3, and 11), Al 'Eizariya wells (1 and 2), JWC well (4), and Hindaza well	1.856
Purchased Resources	Mekorot well (inside the West Bank and the green line)	5.136
	WBWD Wells (Herodion wells 1, 2, 3,4, 5)	2.751
<i>Source: PWA 2009</i>		

Water needs are defined as the minimum water required to sustain a healthy life. Based on the World Health Organization's (WHO) recommendations, each person should receive a minimum quantity of 100 liters of fresh water per day. The Governorate's total domestic water needs were estimated by 9.98 MCM for the year 2008. Therefore, the total real deficit in domestic water supply, taking into consideration water losses, reached approximately 4.07 MCM for the whole Governorate (Table 30) (*PWA 2009*). This deficit is expected to worsen as the population grows.

Table 30 : Supplied and Demanded Water Quantities in the Bethlehem Governorate, 2008

Popu- lation (1000)	Needed Quan- tities (MCM)	Available Quan- tities (MCM)	Deficit (MCM)	Total Losses (MCM)	Con- sump- tion Rate (l/c.d)	Actual Con- sumption (MCM)	Real Deficit (MCM)
182.340	9.983	9.744	0.239	3.829	89	5.915	4.068

Source: PWA, 2009

However, the connection to the networks alone does not automatically translate into regular and constant water supply. Many communities are suffering from the very limited quantities of water supply. In addition to water losses through leaking pipes, which is an endemic problem in the poorly designed and maintained internal water infrastructures. The percentage of water losses is high in the Bethlehem Governorate. The overall loss and unaccounted for water rate was estimated to be 39% in 2008 (PWA, 2009). The total quantity of water that reaches the suppliers was 5.91 MCM in the year 2008. Approximately 3.83 MCM of water is lost from the source to the suppliers. Additional losses take place within the Palestinian localities. These are either physical losses in the localities' networks and/or losses due to inaccurate readings by water meters and unregistered connections. Taking water losses into account, it was estimated that the actual average consumption rate didn't exceed 89 liter per capita per day (l/c/d). In fact, the poor state of infrastructure, coupled with unaccounted for water and the low pressure of water supplied to the Palestinian communities causes many communities in the Bethlehem Governorate to receive no more than 50 l/p/d.

In terms of water quality, the water quality analysis conducted by the PWA revealed that the well's water for domestic use in the Bethlehem Governorate is considered of high quality and within the permitted limits of the Palestinian drinking water standards (Table 31).

Table 31: the results of the chemical analysis of the water resources in the Bethlehem Governorate

Well	NO3	SO4	Cl	HCO3	K	Na	Mg	Ca	EC	pH	T
Beit Fajjar'	13	8	32	238	1	16	33	38	560	7.5	21.4
PWA No.1	8	10	43	246	2	14	29	49	582	7.5	21.8
Hindaza	13	4	29	231	2	9	32	50	535	7.4	
Herodion 1	14	8	29	209	1	15	26	45	507	7.4	20.7
Herodion 2a	15	5	28	221	1	15	24	40	506	7.6	20
Herodion 2	8	11	26	223	2	14	31	34	537	7.4	22.4
Herodion 3	6	10	27	250	2	13	33	40	574	7.4	23.6
Herodion 4	6	10	27	250	2	13	33	40	574	7.4	23.6
Herodion.5	14	7	36	234	2	20	31	43	546	7.4	21.1
Al 'Eizariya.2	5	14	43	227	4	17	31	66	548	7.5	24
PWA No.3	8	9	30	229	2	14	29	49	517	7.4	19
JWC-4	11	17	32	208	2	14	24	61	505	7.5	22

Source: PWA, 2007

3.5. Waste Water

The existing practices for managing domestic wastewater in the Bethlehem Governorate are limited to the collection of generated wastewater by sewage networks and/or cesspits and to the final discharge into open areas, including wadis and agricultural lands, without any treatment.

Wastewater collection in the Bethlehem Governorate is limited to major cities and the refugee camps. Only 9 communities in the Bethlehem Governorate are served, either totally or partially, by wastewater networks (table 32). The sewage network serves approximately 40.4 percent of the Bethlehem Governorate population, while the remaining population uses cesspits and open channels for wastewater collection (PCBS, 2009). Approximately 4.7 MCM of wastewater is generated annually in the Bethlehem Governorate.

Table 32: Percentage of Wastewater Network Coverage in the Communities Connected to the Network in the Bethlehem Governorate, 2007

Community Name	Wastewater Network Coverage (%)
Beit Jala	74
Bethlehem	93
Beit Sahour	78
Ad Duheisha Camp	94
'Ayda Camp	99
Al 'Aza Camp	98
Ad Doha	94
Al Khader	55
Hindaza	26
<i>Source: PCBS, 2009</i>	

3.6. Solid Waste

The existing practices for managing solid waste in the Bethlehem Governorate are limited to the collection of generated waste, and to the transportation and dumping of collected waste in the disposal sites.

Based on the solid waste generation rate⁵ and population number, it is estimated that the Bethlehem Governorate produces approximately 161 tons of domestic solid waste daily and 58.8 thousand tons annually. Only 116 tons of the generated solid waste are collected and dumped daily in the open and uncontrolled dumping sites, whereas the remaining waste is dumped and burned on the roadsides and in vacant lands.

In general, the collection of solid waste is the responsibility of the municipality, the village council and/or the Joint Councils. However, in the refugee camps, the solid waste collection is the responsibility of the United Nations Relief and Works Agency (UNRWA). The solid waste collection service covers almost all of the localities in the Governorate except for 6 localities, which are: 'Arab ar Rashayida, Khamlet al Louza, Kisan, Jubbet adh Dhib, Al Jab'a and Beit Sakariya. However, it is worth mentioning that not all of the population in the served localities are covered by the solid waste collection service. Accordingly, the solid waste collection rate within these localities is estimated at 72%.

Currently, the solid waste collected in Bethlehem, Beit Jala, Beit Sahour, Al Khader, Ad Doha, Ash Shawawra, Dar Salah, Al Haddadiya, Al Khas and Khamlet an Nu'man, Hindaza and Beit Ta'mir is transferred to Al 'Eizariya Landfill in the Jerusalem Governorate. Moreover, the solid waste collected in Beit Fajjar, Nahhalin, Husan, Battir, Wadi Fukin, Ad Duheisha camp, Al 'Aza camp, and

⁵ (Per capita solid waste generation rate for rural/refugee camps and urban localities is 0.7kg/day and 1.05 kg/day, respectively)

'Ayda camp is directly transferred to Yatta Dumping Site in the Hebron Governorate. As for the remaining localities, the collected solid waste is disposed of in four dumping sites which are: Tuqu' dumping site, Za'tara dumping site, Dar Salah dumping site and Al 'Ubeidiya dumping site. Open burning of collected solid waste is practiced in all dumping sites, except Al 'Eizariya, where the solid waste is landfilled. It is worth mentioning that a new sanitary landfill will be constructed in the southern part of the West Bank (Al Maniya area) to be used jointly by the Hebron and Bethlehem Governorates.

PART FOUR
Geo-Political Status in the
Bethlehem Governorate

4.1 Historical Background of the Changing Boundaries of the Bethlehem Governorate

Bethlehem, during the British Mandate and according to the administrative sub-Governorates, was part of the Jerusalem Governorate. On November 1947, the United Nations General Assembly's Resolution No. 181, endorsed the partition of Mandate Palestine into two states, an Arab (Palestinian) State and a Jewish one, see map 7. Jews, who owned only 6 percent of the land, were allocated 55.6 percent of the land even though they constituted 30% of the population, while the Arabs were designated 43.7% of historic Palestine. At the time they owned 94% of the land and formed 70% of the population. Bethlehem and Jerusalem under this partition plan were to be within the Corpus Separatum area; that is a separate body run by an international administration on an area of 0.7% of historic Palestine.

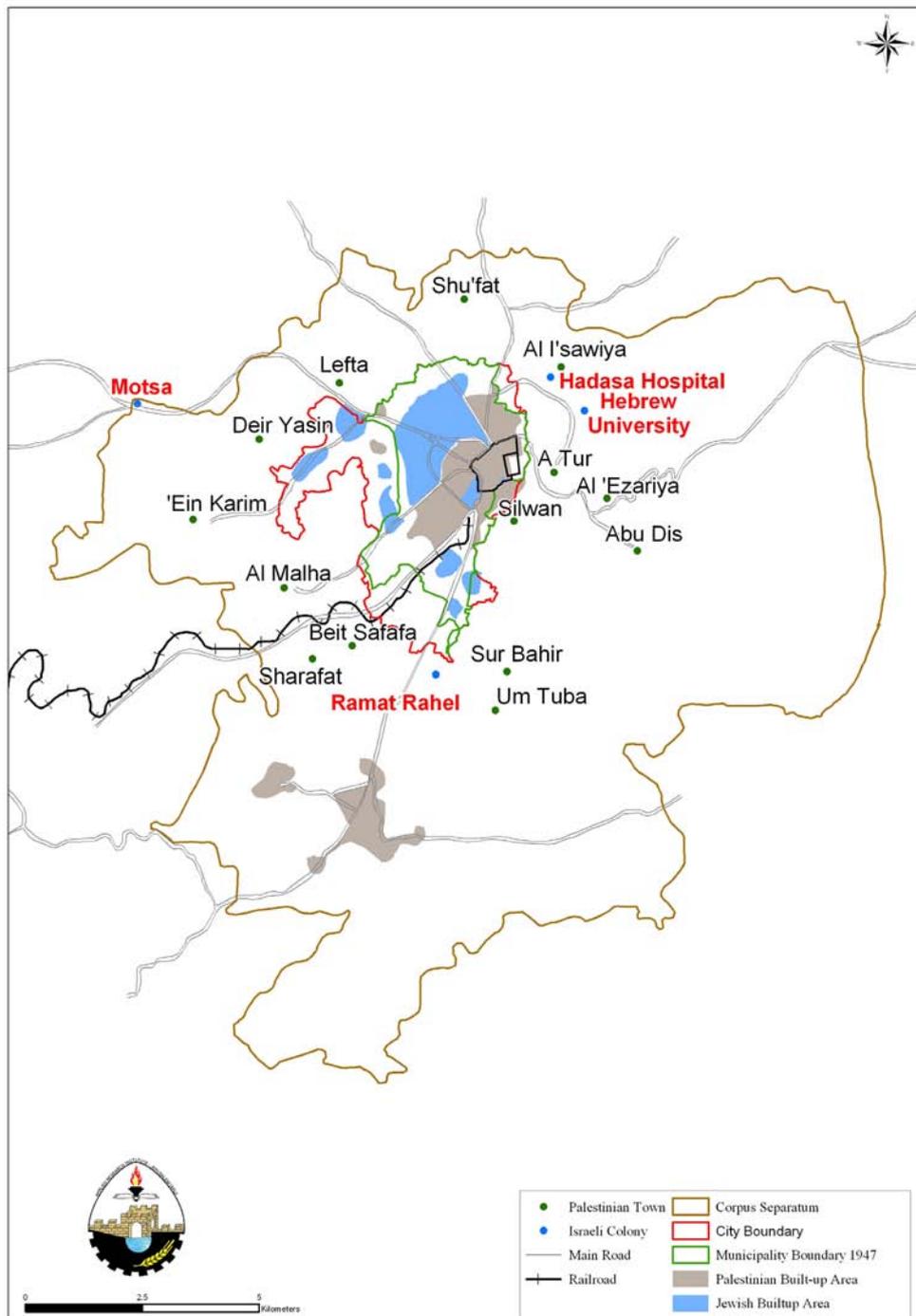
Map 7: United Nation Security Council Resolution 181 for Partition plan of Palestine, 1947 with West Bank and Gaza Strip Boundary



The area of the Corpus Separatum as designated in the partition plan, encompassed an area of 186km², which included lands south of Jerusalem, even beyond Bethlehem, and to Shu'fat village in the north (see map 8). The Arabs at that time rejected the plan, as it ignored the rights of the majority of the Arab Palestinian inhabitants. However, when the British relinquished their Mandate over Palestine, the Jewish militias of immigrants launched a war against the Palestinian residents that ended up with the militias' control of 78% of Mandate Palestine and the destruction of 418 Palestinian villages and driving nearly 800,000 Palestinians into a Diaspora to become refugees in other parts of Palestine and other countries as well. In the aftermath, Bethlehem was part of the West Bank and came under the Jordanian Administration until June 4, 1967.

Map 8: Corpus Separatum of 1947

Corpus Separatum in 1947



On June 5, 1967, Israel occupied the West Bank including east Jerusalem and the Gaza Strip, the Syrian Golan Heights and the Egyptian Sinai Peninsula. Soon after the occupation, the Israeli government redrew the administrative boundaries of the Governorates, erasing the Jerusalem Governorate from the map and expanding the Jerusalem municipal boundaries from 6.5km² to 71km²; increasing it by 10.8 times than its original size to include lands from 28 surrounding towns and villages from Jerusalem, Bethlehem and Ramallah Governorates. As a result, the Bethlehem Governorate lost 18,048 dunums (18.048 square kilometers) of its lands, of which 6,844 dunums belonged to the village boundary of Bethlehem, Beit Jala and Beit Sahour cities (See map 9).

According to the new Israeli demarcation of boundaries, Bethlehem Governorate's area covers just about 659.1km², with five main cities (Bethlehem, Beit Jala, Beit Sahour, Al Khader and Al Doha) and forty localities including three refugee camps. Today, the Governorate is a home to more than 201,000 Palestinian inhabitants (PCBS, 2007).

Map 9: Bethlehem Governorate Location Map



4.2. The Bethlehem Governorate under Oslo Accords

The Oslo II Interim Agreement signed in September 1995 between the Palestinian Liberation Organization (PLO) and Israel, concluded Israel withdrawal from more areas of the West Bank and that occupied territory be divided into Areas “A”, “B” and “C” and Nature Reserve which are designated as varying levels of control. Accordingly, the Israeli Army withdrew from lands classified as areas “A”, and the Palestinian National Authority assumed complete control. This marked the first time that a Palestinian Government retained sovereignty over any Palestinian land. . In area B, Palestinians have full control over the civil administration and Israel continues to have overriding responsibility for security. While in Area C, the Palestinians have responsibility for civil life such as economics, health, and education; while, Israel retains full control over security and administration related to the territory (See map 10).

Under the signed Oslo Accord, the Bethlehem Governorate was classified into areas “A”, “B” and “C” as a part of a withdrawal process to be completed before the end of 1999, prior to the instigation of negotiation over the final status issues. Table 33 illustrates the distribution of areas and the existing population in each:

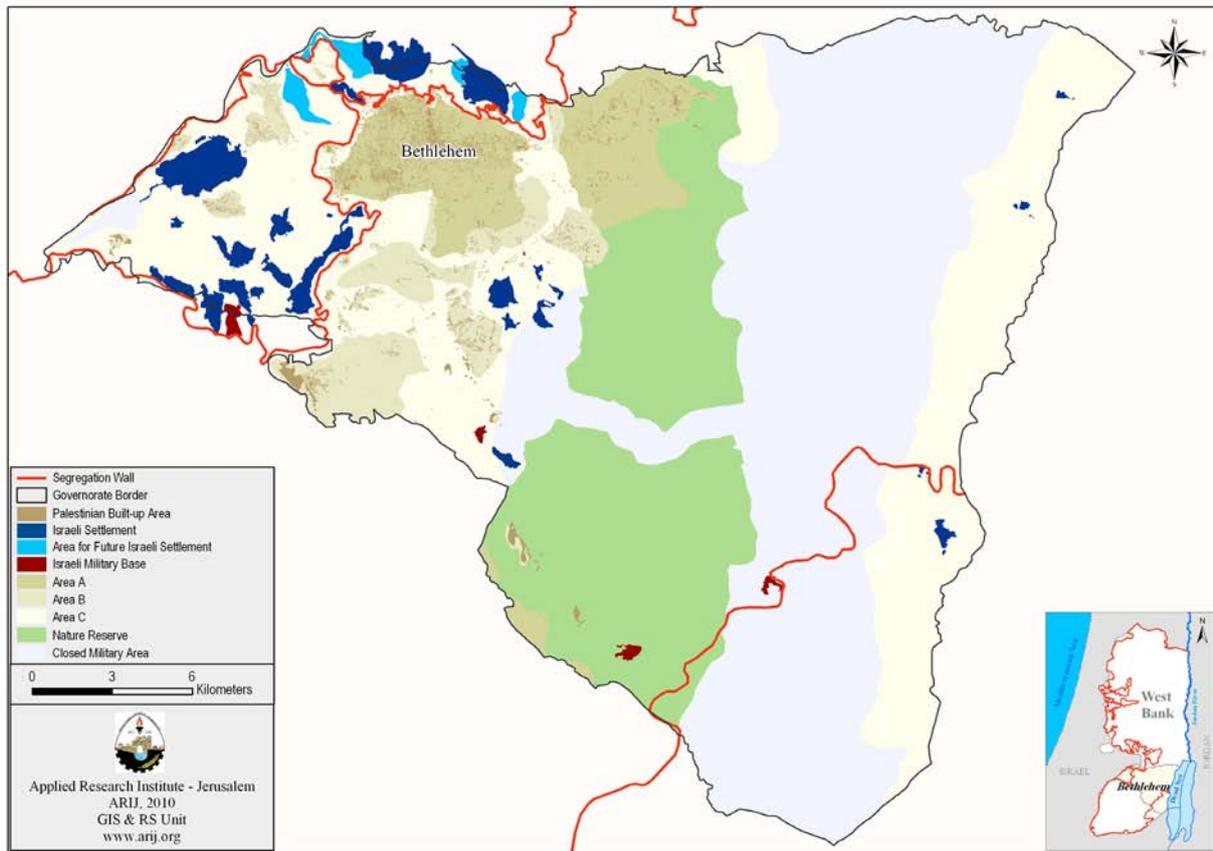
Table 33: The Geopolitical Divisions of the Bethlehem Governorate

Area	Area in Km2	%	Population	%
Area A	49.693	7.5	120837	60.1
Area B	36.482	5.5	70137	34.9
Area C	446.713	67.8	10148	5
Nature Reserves	126.223	19.2	0	0
Total	659.111	100.0	201,122	100

Source: The Geographical Information System Unit, (GIS) - ARIJ 2009

The table shows that almost 95 percent of the population inhabiting the Bethlehem Governorate lives in areas “A” and “B”. Their total area constitutes 13 percent (86.2 km²) of the Governorate area, wherein the population density reaches 2216 person per 1km². The remaining population live within area “C” which constitutes 67.8 percent (446.71km²), where the bulk of the Governorate’s agricultural lands, open spaces and future development areas exist, and where the Israeli Army is still enjoying full control and administrative jurisdiction over the land.

Map 10: The Geopolitical Divisions of the Bethlehem Governorate under Oslo Accord



4.3. The Israeli Settlements' Activities

The Israeli settlement activities in Bethlehem commenced following the Israeli Occupation of the West Bank and Gaza Strip in 1967. Israel's settlements' activities seek to unilaterally and illegally create facts on the ground that will ultimately undermine the Palestinian presence and sustainability and create an Israeli majority on the lands extending from the Jordan River to the Mediterranean Sea. The occupation, the confiscation of Palestinian lands, the uprooting of fruitful trees and the demolition of Palestinian houses, have proceeded virtually without interruption. From January 1994 and through May 2010, the Applied Research Institute – Jerusalem (ARIJ) has recorded the Israeli violations against Palestinian lands and properties in the Bethlehem Governorate and the confiscations of almost 66,000 dunums (66km²) of Palestinian lands for the various Israeli purposes. Moreover, more than 57,000 fruitful trees were uprooted, burnt, cut down or razed; In addition, 172 Palestinian houses were demolished throughout this period. Table 34 indicates the Israeli violations in the Bethlehem Governorate.

Table 34: Israeli violations in the Bethlehem Governorate during the years 1994 & May 2010

Date	Land Confiscated (dunums)	Uprooted Trees	Demolished Houses	Threatened Houses
1994	3433	2486	0	0
1995	200	0	0	0
1996	300	0	0	0
1997	13550	800	12	0
1998	12504	3440	13	0
1999	843	530	3	0
2000	3219	2990	2	1
2001	3655	3360	3	4
2002	1453	3550	13	142
2003	5476	27183	30	49
2004	9694	1576	50	53
2005	3515	2864	13	44
2006	1277	1515	20	27
2007	3634	6120	6	52
2008	219	350	3	22
2009	2808	273	1	50
May 2010	175	645	3	22
Total	65940	57137	172	457

Source: The Monthly Reports Database - ARIJ 2010

4.4. Israeli Settlements and Outposts

Kfar Etzion settlement was the first Israeli settlement established after the June 1967 war, followed by a wave of Israeli settlements in the Governorate. Today, there are 21 Israeli settlements accommodating nearly 105,000 Israeli settlers on Palestinian lands in the Bethlehem Governorate. These settlements are built on a total area of 17,314 dunums (17.3km²), which constitutes around 2.6 percent of the Governorate's total area. See table 35 of Israeli Settlements in the Bethlehem Governorate.

Table 35: Israeli Settlements in the Bethlehem Governorate

Settlement Name	Date of Establishment	Israeli Settlement Area Inside the Bethlehem Governorate (Dunum)	Population (2008-2009)
Geva'ot	1984	135	55
Gilo	1971	1184	40000
Hadar Betar	1978	58	40
Har Homa	1997	1684	7200
Har Gilo	1972	414	479
Betar 'Illit	1985	4686	36400
Efrat	1979	2180	8300
El'azar	1975	536	1706

Settlement Name	Date of Establishment	Israeli Settlement Area Inside the Bethlehem Governorate (Dunum)	Population (2008-2009)
Rosh Zurim	1969	893	550
Allon Shevut	1971	920	3400
Neve Daniyyel	1982	584	1883
Tekoa	1977	1071	1635
‘Ayn Fashkhah	1969	97	Tourist Site
Mshoki Dargot	1991	77	Tourist Site
Kfar Etzion	1967	420	570
Avenat	1983	124	40
Ma’ale Amos	1981	511	383
Mizpe Shalem	1980	440	195
Bat Ayin (Tzurif)	1989	671	906
Nokdim	1982	409	886
El David (Kfar Eldad) & Izdebar	1999	222	200
Total		17314	104828

Source: The Geographical Information System Unit, (GIS) - ARIJ 2009

Furthermore, between 1996 and 2009, the Israeli settlers in the Bethlehem Governorate established 21 locations, which became known as settlement outposts⁶. The Israeli outposts’ phenomenon started back in the year 1996 by Israeli settlers who contrived to take control of hilltops in the occupied Palestinian territory. The outposts are located mostly within 1-4 miles distant of an existing settlement. The Israeli government did not provide those settlers with direct financial support, rendering them illegal and unauthorized but the Israeli Government simultaneously provided infrastructural support through the Israeli Army who would also provide them with a security blanket to carry out their 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; The intent to take as much Palestinian land as possible before “losing them to Palestinians in negotiations”. Table 36 lists the Israeli settlement outposts that were established in the Bethlehem Governorate (see also map 11).

“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.”

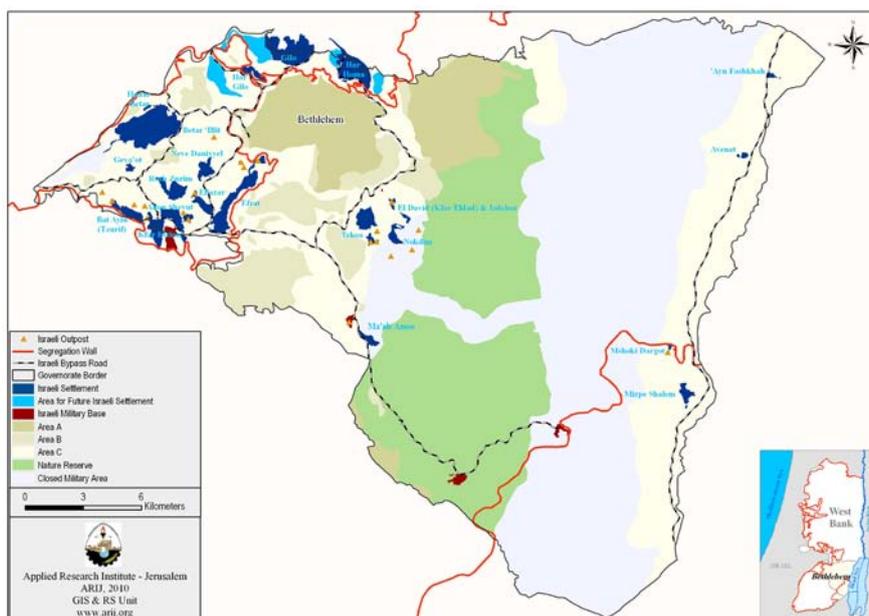
Ariel Sharon addressing a meeting of militants from the extreme rightwing Tsomet party, Agence France Presse, November 15, 1998.

⁶ Settlements’ outposts is a technique improvised by Israeli officials in cooperation with the 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 exist within the master plan area of the settlements - all of which under the direct protection of the Israeli Army

Closest Mother Settlement	Outpost Name	No. of Structures	Period of Establishment
Allon Shevut	Givat Hahish	40	January-98
Allon Shevut	Nitseer	0	Planned
Bat Ayin	Old Masuot Yitzhak	6	January-01
Bat Ayin	Alt 673	2	January-03
Bat Ayin	Bat Ayin West	21	January-99
Bat Ayin	North Bat Ayin	2	1996- February 2001
Efrat	Giva't Hatamar	41	January-01
Efrat	Giva't Hadagan	40	January-95
Efrat	Giv'at Hayetim	0	Planned
El David (Kfar Eldad) & Izdeba	Ma'ale Rehavam	18	January-02
El David (Kfar Eldad) & Izdeba	Sde Bar (Educational Institute)	25	January-98
El'azar	Derech Ha'avot	40	January-01
Kfar Etzion	South Kfar Etzion	2	February 2001 - November 2002
Ma'ale Amos	Ibei Hanachal	24	January-99
Mshoki Dargot	South Mshoki Dargot	7	2002 - June 2003
Neve Danyyiel	Neve Danyiel North	12	January-02
Nokdim	South East Nokdim	0	1996- February 2001
Tekoa	Tekoa B & C	26	January-01
Tekoa	Taqu' D	26	February 2001 - November 2002
Tekoa	South east Tekoa	1	1996- February 2001
Tekoa	Tekoa D	20	January-02
Total		353	

Source: The Geographical Information System Unit, (GIS) - ARIJ 2009

Map 11: Distribution of Israeli Settlements, Outposts and Bypass Roads in the Bethlehem Governorate

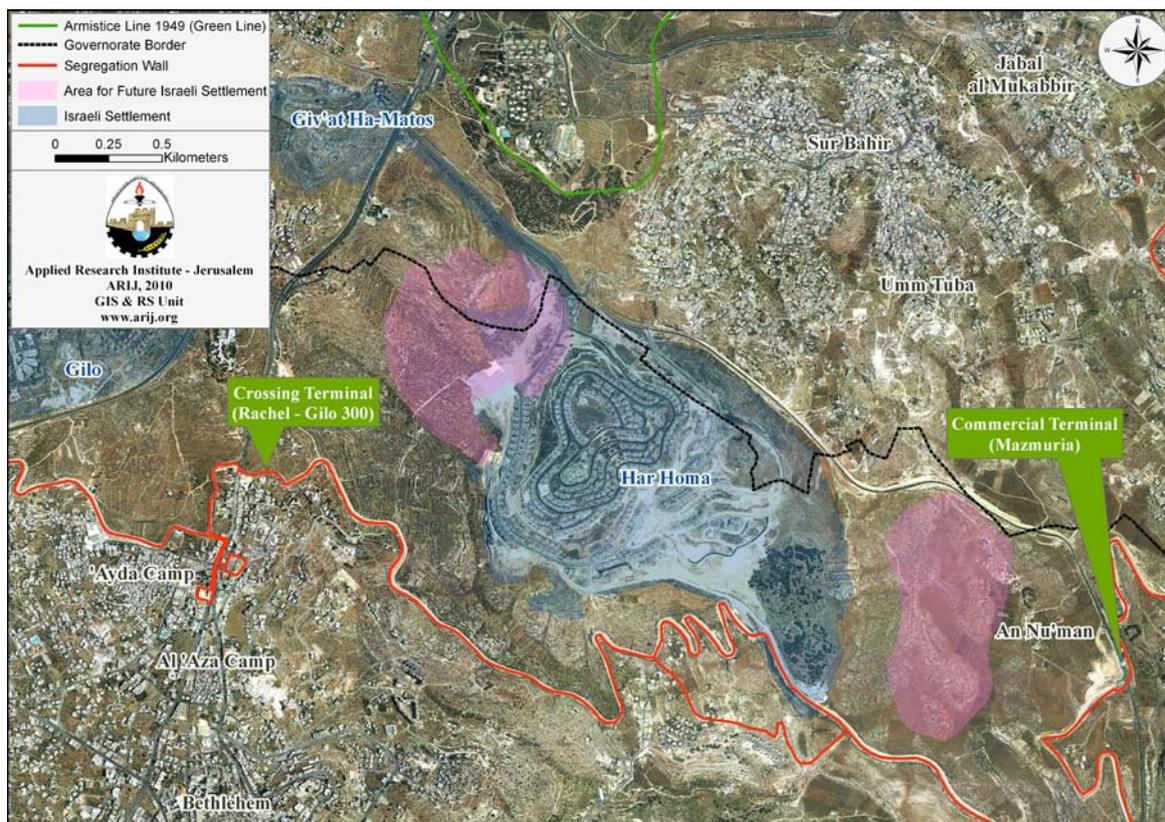


Projected Israeli Plans in the Bethlehem Governorate

- **Two neighborhoods added to Har Homa settlement**

The Master Plan set by the Israeli municipality of Jerusalem (Master plan Jerusalem 2020) indicates the presence of two new neighborhoods to be added to Har Homa settlement located north of the Bethlehem Governorate, one to its southeast and the other to its northwest. These new neighborhoods will have an approximate area of 1080 dunums. The Master Plan also indicates that the residential area of Har Homa is planned to inflate to 1410 dunums; that is an increase by 352 percent than its current seize, 400 dunums. All together, Har Homa settlement and the additional neighborhoods are to sit on a total 2,500 dunums of land (See map 12).

Map 12: Location of new settlements near Har Homa



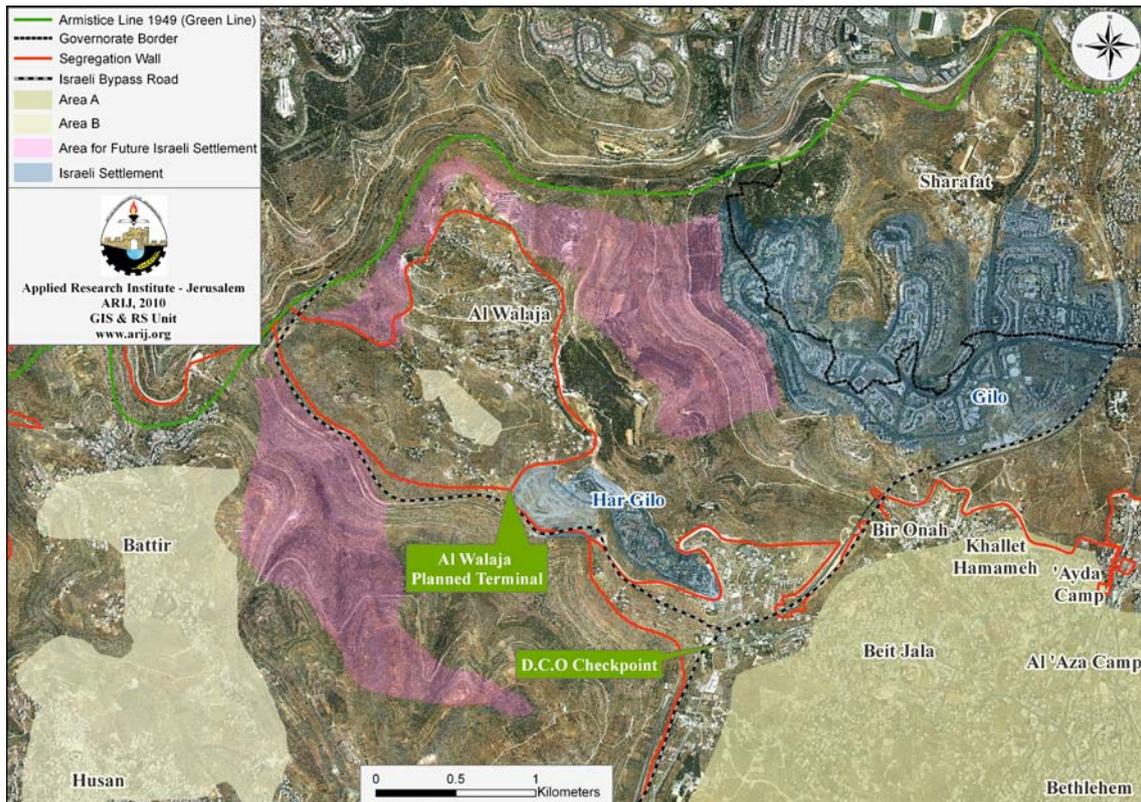
- **Giv'at Yael Settlement:**

In June 2004, private initiatives were made by the Israeli Municipality of Jerusalem (status unrecognized) to build a new Israeli settlement on 2000 dunums (according to Israeli sources) of agricultural lands that belong to Al Walaja, Battir and Beit Jala communities, west of the Bethlehem Governorate. However, the total land area threatened to be confiscated for the construction of this settlement project is 2976 dunums; of which, 1126 dunums are located within Al Walaja village lands, 1279 dunums are located within Battir village lands and 571 dunums within Beit Jala city lands. The new initiative intends to create an Israeli settlements chain between Jerusalem and Gush Etzion settlements Bloc (southwest of the Bethlehem Governorate) as part of the "Jerusalem Envelope" plan. This plan encompass as much land as possible and to increase the number of Jews within Jerusalem illegal boundaries in order to create facts on the ground to alter the demographic status of the city and influence the outcome of the future negotiations regarding Jerusalem. As Jerusalem Deputy

Mayor Yehoshua Polak said, “We want as many Jews as possible in Jerusalem to influence the demographic situation”.

The new Israeli settlement to be, which will hold the name of “Giv’at Yael,” is set to include some 20,000 housing units and accommodate more than 55,000 Jewish settlers. This settlement will physically complete the ring of settlements that separate Jerusalem and encircle Bethlehem starting at Har Homa, extending to Gilo and Har Gilo, linking with the planned Giv’at Yael and continuing towards “Gush Etzion” bloc in the southwest (See map 13).

Map 13: Location map of Planned Giv’at Ya’el settlement

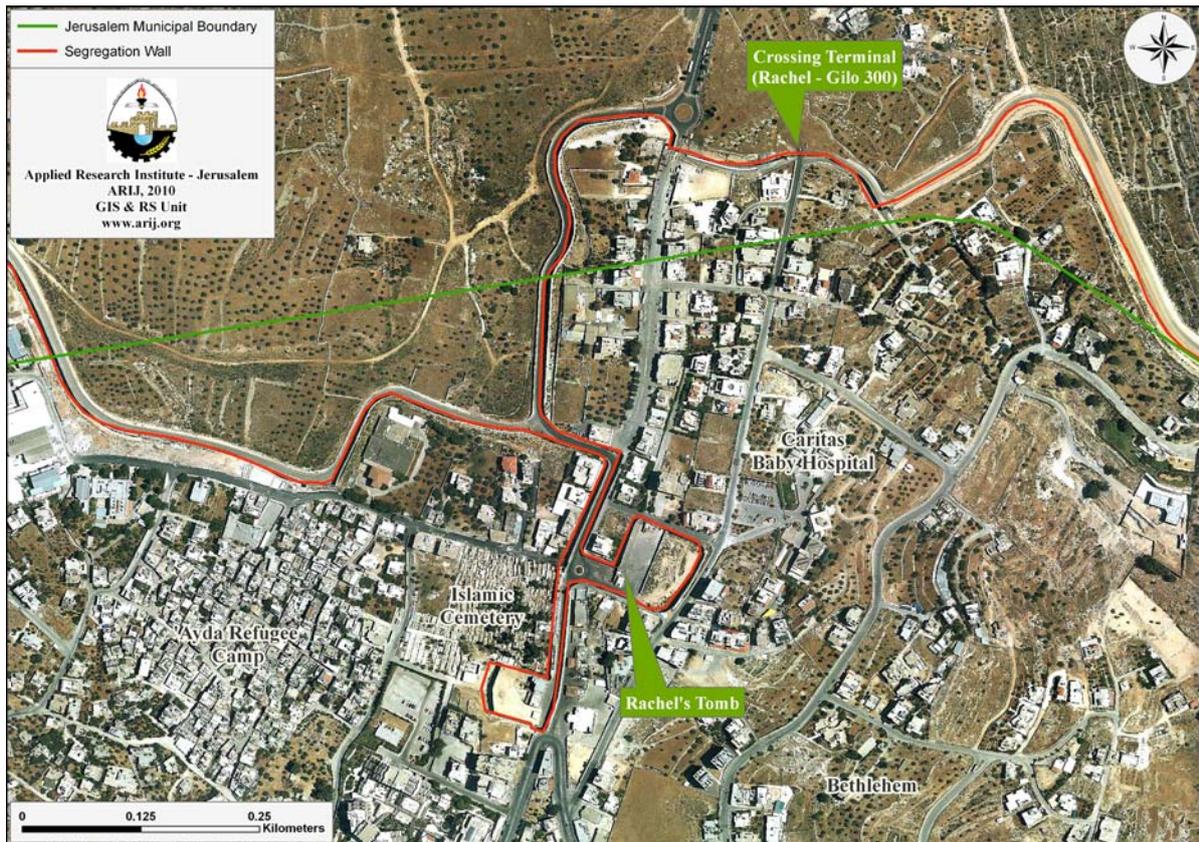


- **Rachel’s Tomb Settlement:**

On February 3, 2005, the Israeli high court rejected a petition filed by 18 Palestinian families from Bethlehem and Beit Jala cities against the construction of a Bypass Road to be constructed parallel to the path of the Segregation Wall at Bethlehem’s northern entrance, extending all the way from Gilo 300 Border Crossing to Rachel’s Tomb Area. The road, according to Israeli sources, is going to facilitate the movement of Religious Jews coming from Jerusalem to the Tomb without having to access the crossing. A week later, the Kever Rahel Fund founder and director Miriam Adani said that the court’s decision is the “first step towards the establishment of a Jewish community around the Rachel’s Tomb compound”, as quoted from the JPost daily newspaper on February 11, 2005⁷ (See map 14).

7 Dave Bender, (2005, February 12). Routing for Rahel [Rachel’s tomb]. Jerusalem Post, <http://www.freerepublic.com/focus/f-news/1342018/posts>

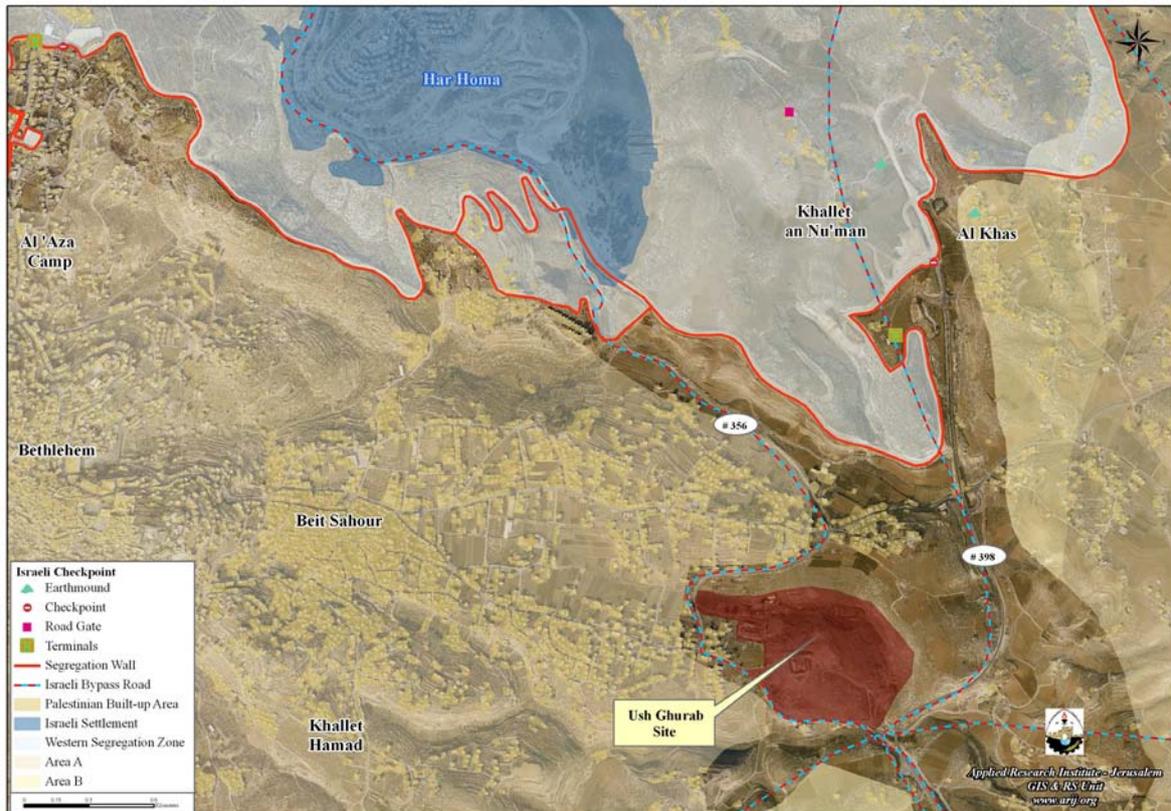
Map 14: Location Map of Rachel's Tomb area



- **A New Israeli site in Ush Ghurab:**

On April 8, 2008, A group of Israeli right-wing activists called 'Developing Har Shamuel Settlement' along with settlers of the Gush Etzion regional council proclaimed their intentions to construct a new Israeli town on the remains of the evacuated Israeli military base 'Ush Ghrab' or as the Israeli Army calls it in Hebrew 'Shdema', located east of Beit Sahour city. The military base was evacuated by the Israeli Army on April 26, 2006 but the location remained within the Israeli Army's jurisdiction as it is located in area classified as 'Area C' according to the Oslo II Interim Agreement of 1995 (See map 15).

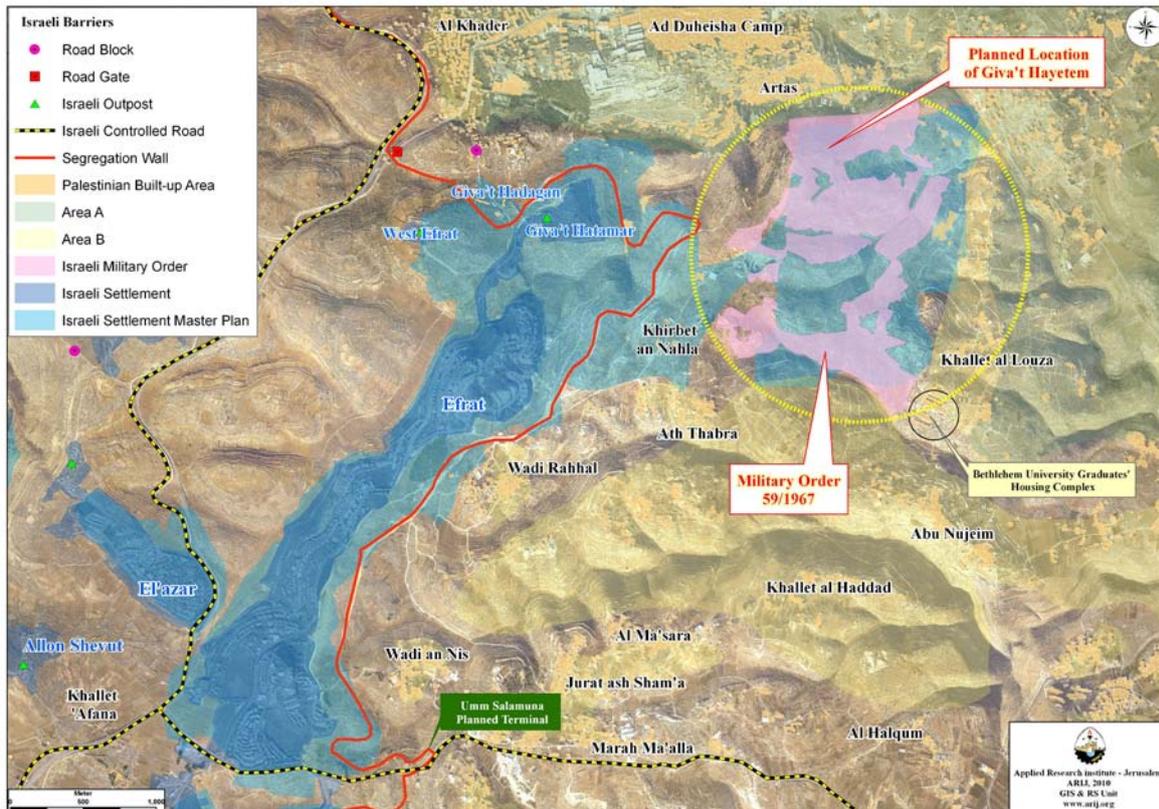
Map 15: Location Map of Ush Ghurab site in Bethlehem Governorate



- **A New Neighborhood for Efrat Settlement:**

The Israeli military court affiliated to the Israeli Civil Administration in the Bethlehem Governorate rejected, in mid February, 2009, eight of nine petitions filed by Palestinian citizens from Al Khader and Artas villages, southwest of Bethlehem city, against an Israeli Military Order issued back in 2004, which stated the seizure of 1700 dunums of Palestinian lands, and allegedly declared as ‘State Land’. The Israeli rule confirming the seizure of the targeted lands went to revive a plan at the same location to build an additional neighborhood for Efrat settlement at the targeted land, which the settlement council of Efrat calls the “eighth hill”. The planned neighborhood name is ‘Giv’ at Hayetim’ and initial plans for the neighborhood is to construct 2500 housing units. The project received preliminary approvals but it did not proceed any further as several other approvals needed to be secured (See map 16).

Map 16: Location Map of Giv'at Hayetim planned settlement in the Bethlehem Governorate



4.5. Israeli Segregation Wall

In the Bethlehem Governorate, the Segregation Wall extends across 80.4 kilometers starting at the eastern rural area north of Al Khas village and runs south to reach Umm al Qassis village. It then extends towards the west, bypasses the southern part of Abu Ghneim mountain north of Beit Sahour, before it continues northwest of Bethlehem and Beit Jala cities and westward to run along bypass Road #60 south of Al Khader village. It then runs southeast towards Wadi an Nis to encompass Efrat settlement.

After which, the route of the Segregation Wall moves further south and southwest to isolate and Segregate the western rural area of the Bethlehem Governorate along with what is known as the Gush Etzion Settlements Bloc. This area also includes 8 Palestinian communities (population PCBS 2007: 21,700 Palestinians) within the western Segregation Zone that will effectively become inaccessible to other Palestinians who are not residents of these communities.

Another Palestinian village which stands to face total isolation but is not included within the western rural area is Al Walaja village (Population PCBS 2007: 1895). It will be enclosed and cut off by the Segregation Wall from all of its sides with a single, but guarded and monitored exit to access Bethlehem.

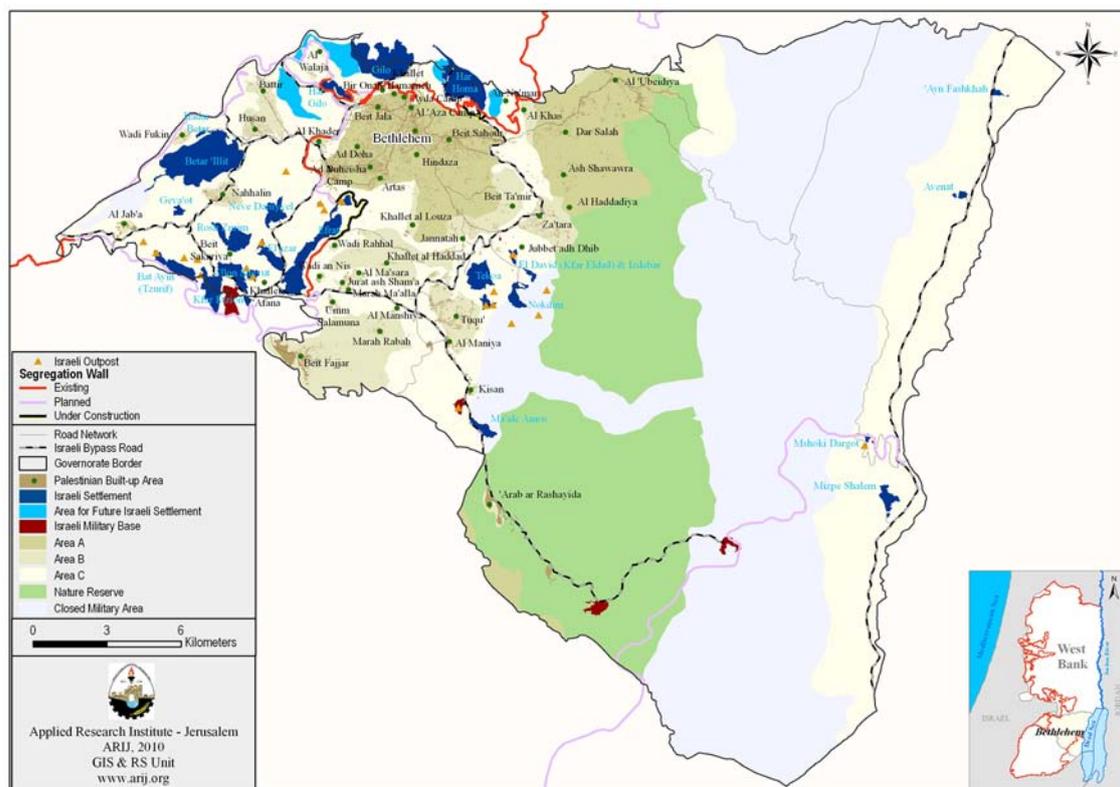
In the Bethlehem Governorate, 176,054 dunums (176.1km²) of lands will be segregated behind the Wall. Also, the Segregation Wall confines the western rural villages of Battir, Husan, Nahhalin, Wadi Fukin, Al Jab'a, Khamlet 'Afaneh, Beit Sakaria and Khamlet al Balluta in a large canton, in addition to placing the village of Al Walaja in an isolated canton by sealing it off with a wall from three directions (east, west and north). Meanwhile it will be sealed off by a protection road from its southern

direction that will run along bypass road number 436 and will be protected from both sides with barbed wires and ditches. Table 37 details the Segregation Wall status in the Bethlehem Governorate (See also map 17).

Table 37: Status of the Israeli Segregation Wall in the Bethlehem Governorate

Wall Status	Length (Km)
Existing Sections	26
Planned Sections	49.4
Under Construction Sections	5
Total Wall Length	80.4
<i>Source : The Geographical Information System Unit, (GIS) - ARIJ 2010</i>	

Map 17: the work status of the Israeli Segregation Wall in the Bethlehem Governorate.



Any movement from or to these villages (isolated cantons) will be controlled completely by the Israeli occupation forces. These residents (population +21,000) will be segregated from their lands, livelihoods, and vital social services, such as hospitals, schools and universities, that are only found in the city centers east of the Wall.

Of the isolated lands in the Bethlehem Governorate, 108,644 dunums (108.6km²) are agricultural lands in addition to 49,093 dunums (49.1km²) of forests and open spaces, as most of the agricultural lands in the cities of Beit Jala and Al Khader, and the only recreational forest will be segregated. Entrance to the isolated agricultural lands will only be for farmers who are able to prove landownership through a credited Israeli organization (most likely to be the Israeli civil administration) and only the owners whose names are listed in the ownership deeds (usually the eldest of the families) will receive permits. Furthermore, the Israeli civil administration will only issue permits on a seasonal basis. Hence, the owners will find it hard to manage the cultivated lands on their own especially since the permits do not include additional labor or equipments.

The Negative Impact of the Segregation Wall

Impact on Agriculture

In the Bethlehem Governorate, 108,644 dunums (108.6km²) of the agricultural area will be segregated in both the Western and the Eastern Segregation Zones. This means that 24.4 percent of the total agricultural area in the Bethlehem Governorate (445,790 dunums) will become inaccessible for Palestinian residents.

The western part of Bethlehem area receives a relatively high average annual rainfall of 550-600 mm (ARIJ database). The area is mainly planted with rain-fed field crops (wheat and barley); fruit trees (olive groves, vineyards) and irrigated agriculture. It is worth mentioning, large area of the land in the western part of the Governorate located behind the wall.

Impact on Biodiversity

In addition to the threatening factors to the agricultural land, the Israeli segregation zone will threaten the natural resources and the biodiversity of the different ecological zones in the Bethlehem Governorate. The Segregation Wall is one of the most threatening acts as it would have significant repercussions for wildlife movement, by adding further to the fragmentation of ecosystems and habitats on both sides of the Wall and by cutting the natural ecological corridors. Such pressure on the integrity of ecosystems and stability of natural resources increases the risk of losing the Palestinian biodiversity.

Furthermore, the segregation zone in the Bethlehem Governorate would cause isolation and fragmentation to the forested areas and open spaces. A total of 49,093 dunums of forested and semi-natural areas and open spaces will be isolated from the Bethlehem Governorate upon wall completion. Therefore, 27.9 percent of the total forested and semi natural areas in the Bethlehem Governorate (175,958 dunums) will be isolated. Most of these forests were planted during the British mandate and a small percentage was made up of the remnants of natural forests.

However, the forests will be physically fragmented by the Wall which would disrupt the contiguity of the landscape, the natural water flow of the streams and springs, and the movement of biota, and it would also threaten the plant species that grow naturally in the area. Therefore, this segregation plan would exacerbate the long-term trend of degradation of planted and natural forests in the area and could have potential adverse impacts on securing the protection of contiguous areas of habitats and ecosystem management. Moreover, the loss of the different forest plants could have significant impact on Palestinian biodiversity.

Impact on Water Resources

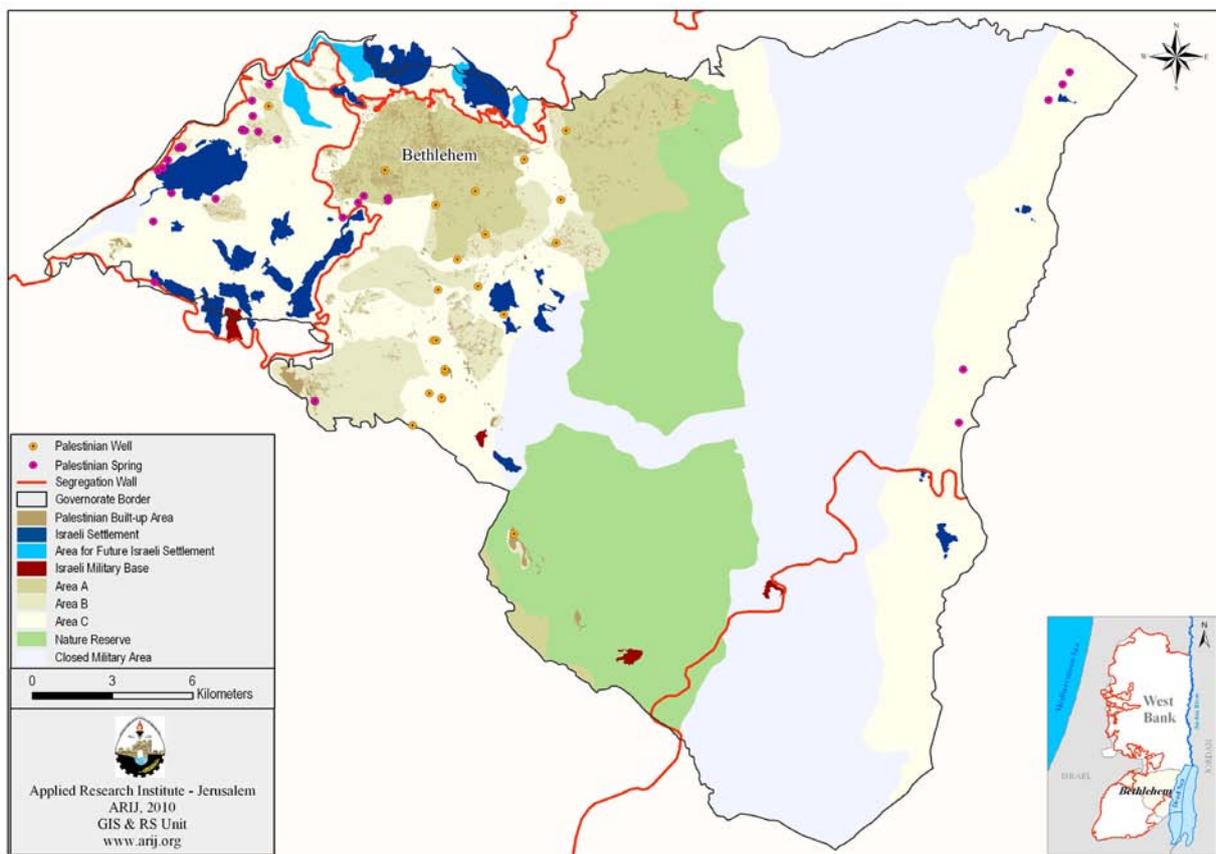
The Segregation Wall not only appropriates Palestinian lands but also encloses, isolates and threatens Palestinian ground water wells and springs. The Bethlehem Governorate is located above the Eastern and Western basins of the West Bank Mountain Aquifer. The available renewable water resources in the Bethlehem Governorate consist primarily of groundwater and surface water. However, due to the political situation, Palestinians have little access to these resources. The total water consumption of the Bethlehem Governorate is nearly 5.915 MCM, while only 1.847 MCM is locally provided.⁸

⁸ Palestinian Water Authority. «Water Situation in the Governorate of Bethlehem.» Palestinian Water and Wast -

The Segregation Wall threatens crucial supply areas containing artesian wells and main water basins that provide the Bethlehem Governorate with water. The path of the Wall is designed to enfold the groundwater within the Bethlehem Governorate. Most of the isolated Palestinian lands west of the segregation Wall in Bethlehem fall on the Western Basin of the West Bank Aquifer, one of the three major aquifer basins in the West Bank. This aquifer basin contains more than 20 groundwater springs and wells, which supply the area with water for irrigation and other uses (See map 18). Such an act would add the risk of increasing the water shortage problem in the Bethlehem Governorate.

Additionally, such pressure on the groundwater resources would jeopardize the development of any possible future integrated management plan for shared water resources. The Wall in Bethlehem as well as in the other Governorates is planned to give Israel near total control to the most productive aquifer basin.

Map 18: Distribution of groundwater springs and wells in the Bethlehem Governorate



Impact on Social Life

The Israeli Segregation Wall cuts off the Palestinian villages of Battir, Husan, Nahhalin, and Wadi Fukin in addition to the three hamlets: ‘Afanah, Al Balluta and Beit Sakaryia. The wall will also place Al Walaja village in a separate enclave, isolated from the aforementioned villages and the urban centers of the Bethlehem Governorate. Residents living in the Segregation Zone are separated from friends and relatives living in the nearby villages and cities. These residents will be required to obtain permits from the Israeli occupation authorities simply to access their homes. Non-residents

water Sectors (2009): Date retrieved 31 May 2010. <http://www.pwa.ps/Portals/_PWA/e4e1cac0-2b82-4d46-b494-f38e4e4c86e4.pdf>.

are restricted from entering these areas. Additionally, Palestinian communities (such as Beit Jala and Al Khader among others) have been isolated from their agricultural lands which lie on the opposite side of the Wall. As a result, the construction of the Segregation Wall will significantly impair the ability of many Palestinian families to earn their living.

Moreover, the Segregation Wall imposes a systemic challenge to the local and national health care and educational services. The Wall makes it much more difficult for Palestinians to reach hospitals, medical centers, schools, colleges, universities and institutions situated in nearby cities. Access is controlled by Israeli occupying forces and based on the Israeli permit system.

Impact on Economy

The Wall has had certain significant and highly destructive impacts on the Palestinian economy in the West Bank. The worst impact has occurred in the agricultural sector. Many Palestinians depend on agriculture for their livelihood. Such is the case for many communities in the Bethlehem Governorate where the total annual value of agricultural production is anticipated to be reduced. The residents of the targeted communities will lose their main source of income, due to the Israeli restrictions on accessing their lands. The Israeli occupation authorities require all Palestinian farmers to obtain special permits to access their lands through military gates in the Wall. In order to obtain the permits, Palestinian farmers must display specific documents signifying ownership of the land. If such documents are not available, Palestinian families are unable to reach their land and harvest their crops. Even individuals who possess the required documents are often denied permits or granted permits only for very specific, short periods. Israeli occupation authorities often deny permits, citing 'security concerns'. These arguments are never elaborated upon or explained. In addition, Israeli occupying forces only open the gates at certain periods. Many of the functioning gates in the Qalqilyah District in the West Bank, for example, are only opened twice a day for half an hour in the morning and half an hour in the afternoon. The Israeli Segregation Wall also increases the difficulty of transporting goods and agricultural and other products to markets.

Impact on demography

The innumerable Israeli violations against the Palestinian land and people of the Bethlehem Governorate have permanently destroyed the major source of income for most of the Palestinians. Palestinian families are today facing the twin realities of economic ruin from the destruction of agricultural lands and the extreme overcrowding of urban areas due to the limited area available for urban expansion and growth of Palestinian communities. Israel's occupation policies in the West Bank have resulted in the direct deterioration of the living conditions through the establishment of Israeli settlements, the creation of bypass roads, the presence of military installations and the construction of the so called "Separation Barrier" or the Segregation Wall, which have all resulted in the suffocation and constriction of the Governorate.

The Israeli checkpoints also constitute a major restriction on the lives of Palestinians in the Bethlehem Governorate. In addition to the checkpoints, the Israelis have created road blocks (earth mounds) of rubble and dirt along routes used by Palestinians to avoid the checkpoints. The result of these actions is a near complete isolation of the Governorate from the rest of the Occupied West Bank Governorates. The consequences of these actions for the economy of the Governorate have been devastating. Businesses have been forced to close and unemployment has increased to an unprecedented level.

The harm caused to Palestinians by checkpoints and closures is not restricted to the economy. They also restrict the movement of every Palestinian, causing widespread frustration, collective punishment and humiliation.

Residents of the Occupied Palestinian Territory have lived and still live under the constant threat of violence from the Israeli military forces and settlers. The complete economic collapse and constant fear for personal security force Palestinians to consider the possibility of emigration to demand better living conditions as most do not achieve either economic or physical security and have come to see the lack of opportunities to improve their situation, and as their savings diminish rapidly.

The Israeli Eastern Segregation Zone

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”*⁹. 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”*.

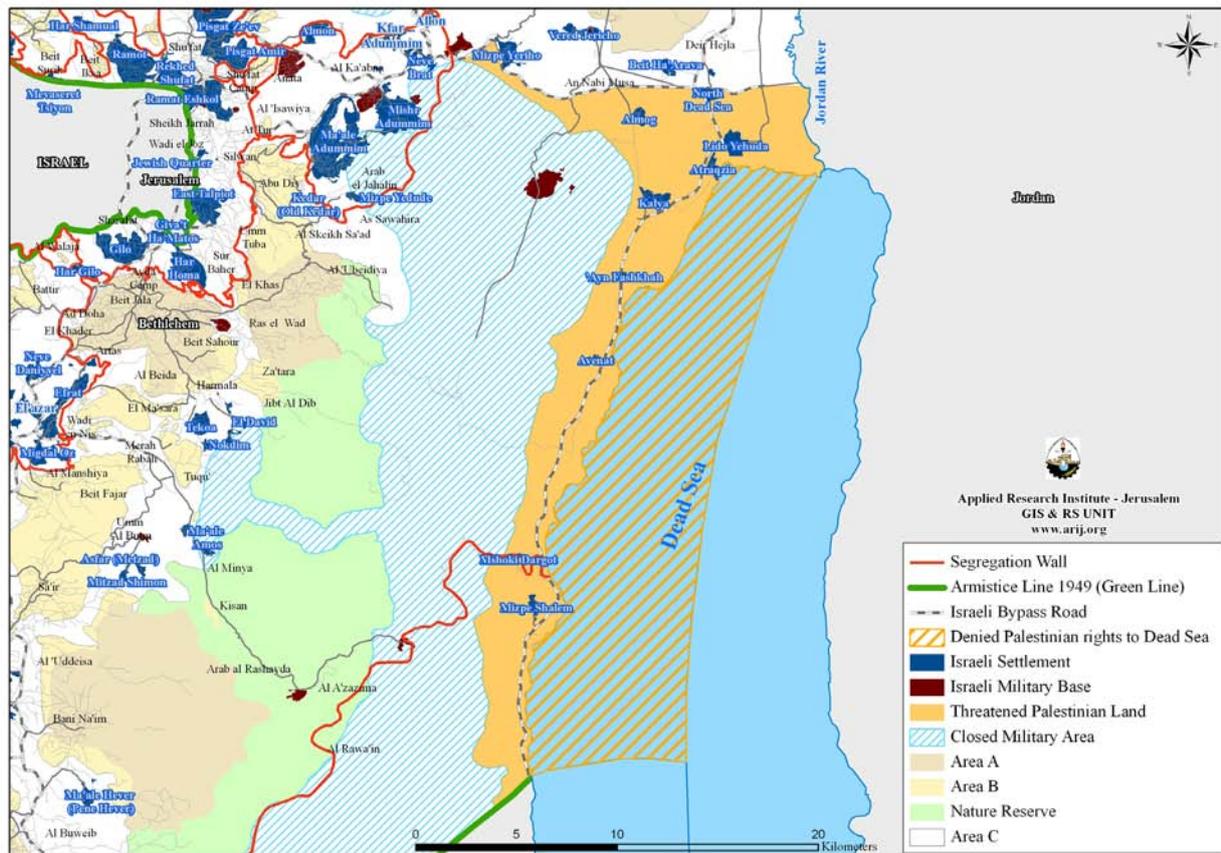
The eastern part of Bethlehem Governorate lies within the West Bank’s eastern Segregation Zone. This area extends from Bethlehem’s eastern slopes to the western shores of the Dead Sea. This sparsely populated eastern section covers a total area of 291,720 dunums (291.7km²) (44.3% of the total Governorate 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 became inaccessible to Palestinians.

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 for the 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 the Bethlehem 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 aim to manipulate and will continue to manipulate the future extension of the Bethlehem government control over land along its eastern terrains, which is the only available land remaining for future expansion purposes (See map 19).

9 «Israel’s Policy of «Creating Facts» wins over the Bush Administration.» Report on Israeli Settlement in the O - cupied Territories (2004): May-June 2004.

Web:<http://www.fmep.org/reports/archive/vol.-14/no.-3/PDF>

Map 19: Threatened Palestinian lands in the eastern part of the Bethlehem Governorate



4.6. Israeli Checkpoints and Bypass Roads

Israeli Checkpoints (Obstructions) in the Bethlehem Governorate

Checkpoints have always been standard procedures of the Israeli Occupation Army in the occupied Palestinian territory. However, it was not until the Palestinian Intifada of September 2000 that the Israeli Army increased the number of operating checkpoint to unprecedented levels in addition to restrictions imposed on the Palestinian populace attempting to cross these checkpoints.

Furthermore, over the past years, the behavior of the Israeli soldiers stationed at these checkpoints has taken a turn beyond the usual hassle treatment to more acts that qualify as within manners of vicious and sadistic behaviors. Many Palestinians of different segments of the Palestinian society (students, teachers, patients, medical staff and employees) were subjected to various forms of Israeli cruelty, which involved beating, humiliation (striping of cloths and sitting on a dirt mound), being held for hours under the burning sun or the cold weather before they are allowed to cross a certain checkpoint. The fallouts of the Israeli soldiers' behavior at checkpoints has had a tormenting effect on the Palestinian society, causing cut social ties, economic separation between Governorate a rise in the unemployment level, and disruptions to daily life activities and internal emigration. In addition to that, medical services became dramatic as medical staff, doctors and patients were denied access through checkpoints even in cases of medical emergencies. On many occasions patients were carried on wheel chairs or animals (donkeys), as even ambulances were not allowed to cross causing deaths in many cases.

The Israeli soldiers at checkpoints impose a time restriction on the movement through checkpoints, and even though it is not clear that the Israeli Army authorizes such actions it is all the same, since similar and much more brutal actions went on with impunity.

Bethlehem Governorate is no different from any other Palestinian Governorate. It is chained with all sorts of Israeli checkpoints or obstructions. Form of obstruction used by the Israeli Army to restrict the Palestinian’s movement include cubical cement roadblocks, earth mounds, manned checkpoints and agricultural gates, tunnels, secondary roads and iron gates, etc. Prior to the year 2000, the Bethlehem Governorate had only 2 permanent checkpoints located at the outskirts of the Governorate, on the entry points to Jerusalem. The obstructions multiplied over the past 10 years to 52 different forms of obstructions. Table 38 lists the number and various types of obstructions established by the Israeli Army to restrict and confine the movement of +201,000 Palestinian residents of the Bethlehem Governorate.

Table 38: Israeli Checkpoints in the Bethlehem Governorate

Type of Checkpoint	No. of Checkpoints
Checkpoint	9
Earth mound	10
Road Block	3
Road Gate	5
Barrier Gate	8
Partial Checkpoint	4
Tunnel	7
Observation Tower	6
Total	52
<i>Source: The Geographical Information System Unit, (GIS) - ARIJ 2009</i>	

The consequences of these actions on the economy of Bethlehem have been devastating. Businesses have been forced to close and unemployment has increased to unprecedented levels, particularly the tourism sector, which is a major source of livelihood for many of Bethlehem’s residents. It which stands literally paralyzed, thus affecting the economic aspect, causing wide spread frustration.

The Israeli bypass roads in and around the Bethlehem Governorate

The term “Bypass Roads” did not come into use until the signing of Oslo agreement between the Israelis and Palestinians in 1993. It indicates designated roads for the Israeli Army and settlers use, to bypass Palestinian towns and communities in the context of the 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. Ultimately Israel wants to affect the outcome of negotiation with the Palestinians including the establishment of a viable contiguous Palestinian State. The majority of the West Bank area is Area “C”, which holds all Israeli settlements, and consequently the Israeli bypass roads that pierce at many classified “A” and “B” areas establish a physical obstruction between two controlled Palestinian areas.

Along with launching a vigorous settlements program following the Israeli occupation of the West Bank and Gaza, back in 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 will work to

facilitate the construction of Israeli settlements and the Israeli settlers movement between occupied territory settlements and Israel and eventually 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 legitimate excuse to expropriate Palestinian lands. This procedure proved its efficiency before when the Israeli Army would expropriate Palestinian lands under the “security needs” pretext to establish an Army base. Bases would later be turned over to Israeli settler control.

They would turn it into a civilian inhabitant area (settlement). For Israel, that was the only available option or the only loop, to bypass the international law, which considers expropriating land for any purpose other than military use a “grave breach”. Israel also argued for the military role of the settlements and the bypass roads as important for its security. This allowed the Army to expropriate private Palestinian lands to build settlements and its roads. Israel also argued that the roads it was building would also benefit the local Palestinian population who would be allowed to travel on these roads. Furthermore, the Israelis built roads on confiscated Palestinian lands, thus contributing immensely to the creation of the stimulate the habitation of the Israeli settlements, which encouraged the Israeli settlers to take initiative and construct roads on their own, roads that would later on be endorsed and adopted by the Israeli Army to cast a shadow of legitimacy upon them. In addition to its role in connecting settlements, Israeli built roads designed 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 September 2000 Intifada, Palestinians had almost complete access to these bypass roads, except at time when the Israeli Army was on security alerts. Palestinians are no longer allowed to travel on the bypass roads or would have to undergo a security check conducted by the Israeli Army border patrols, which would take hours at times.

Following the 2000 Intifada, Palestinians’ accesses 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 where Palestinian are no longer allowed to travel on as “sterile” roads, meaning that these are Palestinian free roads.

Today, almost 118km fall under the bypass roads category in the Bethlehem Governorate. These roads serve to facilitate movement of these settlers among each other, with Israel, 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, barbed wire and iron gates, all under the pretext of military and/or security purposes.

In addition, Israel plans to construct a 30 kilometer road (Bypass Road No. 80) in the Bethlehem Governorate. Once constructed, it will undermine the Palestinian urban expansion in the eastern part of the Bethlehem Governorate and will segregate more than one third of the Governorate’s area.

Israeli Terminals in the Bethlehem Governorate

In September 2005, the Israeli Government announced the construction of 10 main terminals (passages) in addition to 23 crossing points along the path of the Segregation Wall in the West Bank Territory¹⁰. The ten terminals included two main terminals in the Bethlehem Governorate, Mazmura and Rachel’s terminal (Gilo 300). The ten terminals, once fully constructed, are to control the movement of more than 2 million Palestinians. Five of these terminals will be trade terminals under the

10 Haaretz online daily newspaper, September 9, 2005.

bases of back-to-back goods exchange.

In addition to the two main terminals in the Bethlehem Governorate (Mazmuria Terminal and Rachel's Terminal (Gilo 300)), Israel is planning to construct four additional terminals in the Bethlehem Governorate. They include Al Khader passage, which will be constructed on lands of Al Khader village west of Bethlehem; Al Jab'a trade passage which will be constructed on lands of Al Jab'a village southwest of Bethlehem city; Umm Salamuna passage, which will be constructed on lands of Umm Salamuna village south of Bethlehem city; and Har Gilo terminal which will be constructed on lands of Al Walaja village and Bethlehem city. Below is detailed information about the terminals, their location, their status and their functions (See map 20).

1. Rachel's Terminal (Gilo 300): A Border Passage at Bethlehem Northern Entrance- Status: Operational

Constructions at Rachel's Terminal started early in year 2004. A number of caravans were added to the site in addition to well developed equipments, watch towers and security establishments, aiming at transforming the site into a huge terminal (crossing border) and totally separating Bethlehem from Jerusalem. On November 15, 2005, the Israeli authorities inaugurated terminal Gilo '300' in the northern entrance of the Bethlehem Governorate.

2. Mazmuria Terminal - A Trade Passage at Bethlehem Eastern Entrance- Status: operational

In September 2005, the Israeli Army declared some land area in Al Khas and An Nu'man Village, east of Bethlehem, confiscated. The confiscation process was carried out when four Israeli military orders holding numbers (156-5-T), (155-5-T), (154-5-T) and (52-05) were handed out to residents of the two villages informing them that 43 dunums of their lands will be confiscated to construct a trade passage and an additional part of roads designated to serve the trade passage, which will lead toward Har Homa settlement and consequently to Israel. Furthermore, the Israeli Army plans to establish a military camp on 127 dunums of land all belong to Palestinians from Beit Sahour city once the construction of the Segregation Wall is completed.

3. Al Jab'a Terminal- Status: in Planning Phase

On August 22, 2005, the Israeli Occupation forces handed out residents of Al Jab'a two military orders declaring the confiscation of 181 dunums for the construction of Al Jab'a Terminal. According to the first military order, which held number (T/158/05), a total of 110 dunums of Al Jab'a lands and the nearby village of Surif were designated for confiscation to alter the existing checkpoint south of Al Jab'a to a trade passage. The terminal to be will snatch 43 dunums from Al Jab'a village and 64 dunums from Surif, where as the remaining 3 dunums comes from lands located inside the 1949 Armistice Line (Green Line), but originally belong to Al Jab'a village.

4. Al Khader Passage- Status: Under Construction Phase

On November 21, 2005, the Israeli Army issued military order # 210/05/T to confiscate 85 dunums (according to the order) from three Palestinian communities west of the Bethlehem Governorate (Beit Jala, Battir and Al Khader) to construct a tunnel and a terminal for travelers between Bethlehem western rural area and the Bethlehem Governorate. The confiscated lands are located within Block (2) of Al Khader village lands, Blocks 12 and 13 of Battir village lands and Block 2 of Beit Jala city lands. The new Israeli military order constitutes a border point between Bethlehem western

rural villages (Battir, Husan, Nahhalin and Wadi Fukin, in addition to the three hamlets ‘Afaneh, Al Balluta and Beit Sakarya - population exceeds 21,000), which will be entrapped by the Segregation Wall from the rest of the Bethlehem district.

The location of the tunnel is under the Israeli controlled bypass road # 60, whereas the area targeted by the military order extends along Al Khader village trail of bypass road # 60. The tunnel goes underneath bypass road # 60 to route Palestinians residents of western rural villages to Bethlehem’s services center. However, Palestinian going in either direction in the tunnel will have to go through the terminal under the Israeli forces supervision. For those who own lands beyond the Segregation Wall and must undergo the tunnel and cross the terminal, they are required to submit a proof of land ownership in order to pass through.

5. Al Walaja Passage : Al Walaja Terminal (Har Gilo Terminal)- Status: in planning phase

On February 19, 2006, the Israeli Occupation Forces issued a new military order number (25/06/T) to confiscate 39.8 dunums of lands from Al Walaja Village and Beit Jala city, block 3 and block 2 respectively, for military purposes, mainly for the construction of a new Terminal in the area. ‘Har Gilo Terminal’ will tighten the access of Al Walaja residents into and out of the village. The military order is a complementary to the Israeli Segregation Wall plan which is being implemented on lands of the village. See section of concerning Al Walaja Village.

6. Umm Salamuna Passage – Status: Under Construction Phase

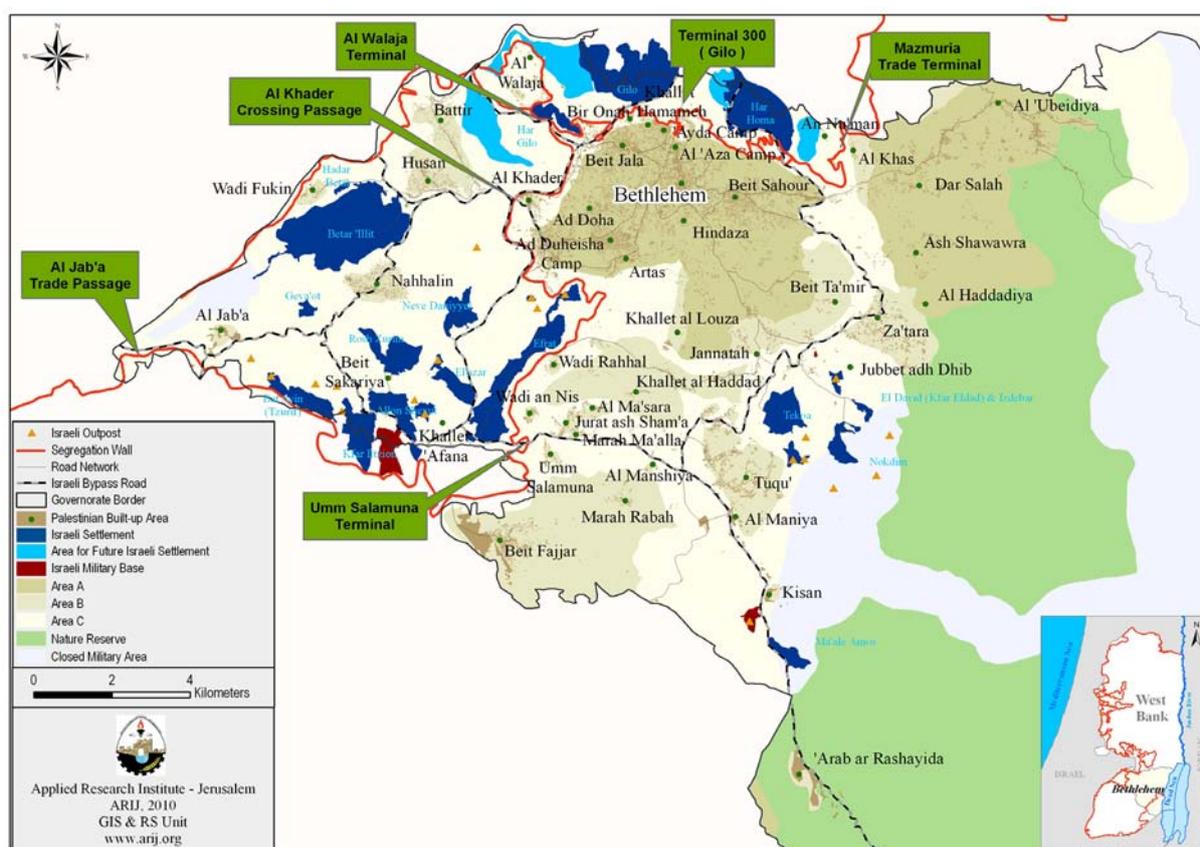
Umm Salamuna is the sixth terminal identified by the Israeli Army in the Bethlehem Governorate. The Israeli Army issued on the 25th of July 2006 military order number (69/06/T) that confiscates 152 dunums of lands from Al Khader, and Beit Fajjar (in Bethlehem), and Beit Ummer (in Hebron) to construct a new terminal south of the Bethlehem Governorate and to resume the construction of the Segregation Wall in that area.

Table 39: The Israeli Controlled Terminals in the Bethlehem Governorate

Terminal’s Name	Function	Location	Status
Umm Salamuna	Commercial	South of Bethlehem	Under Construction
Rachel-Gilo 300	Crossing	North of Bethlehem	Operational
Mazmuria	Commercial	East of Bethlehem	Operational
Al Walaja	Crossing	North of Bethlehem	Planned
Al Khader	Crossing	West of Bethlehem	Under Construction
Al Jab’a	Commercial	Southwest of Bethlehem	Planned

Source: The Geographical Information System Unit, (GIS) - ARIJ 2009

Map 20: Israeli terminals in the Bethlehem Governorate



Israeli Military Orders in the Bethlehem Governorate

Israel has always tried to escape its status as an occupier of the Palestinian Territory by attempting to justify its existence as an administrator of the occupied territory. For this reason, Israel resorted to military orders to validate its belligerent acts, using its infamous “military purposes” pretext to violate the international humanitarian laws and the United Nations Security Council resolutions.

Following the signing of the Oslo Accord in 1993, Israel has issued thousands of military orders to execute its plans to consolidate its control over the occupied territory starting from building and expanding settlements and bypass roads, confiscation lands, etc. and ending up with the Segregation Wall. In the Bethlehem Governorate, the Israeli Army issued hundreds of military orders to carry out its plans, many of which were not made available to the public. But to those of concern to this day, the ones that were available were recorded as listed in Table 40.

Table 40: Israeli Military Orders in the Bethlehem Governorate

Type of Military Order	No. of Orders	
House Demolition	168	
Land Confiscation	State Land	61
	Segregation Wall	44
	Military Uses	41
Total	314	

Source: ARIJ Military Orders Database, 2010
<http://orders.arj.org>

4.7. To recap

The Israeli Segregation Wall acts as the final chapter and the summary up of the Israeli colonization activities during the past 4 decades of the Israeli occupation. It will leave the Bethlehem Governorate crippled with limited potential for development of the Governorate's built-up area or for any other purpose. Overall, the Israeli Segregation Wall will effectively exclude some 26.7 percent of the Bethlehem Governorate's lands within the Western Segregation Zone (between the Wall and the 1949 Armistice Line, Green Line). And an even much larger area, some 44.3%, is continued within the Eastern Segregation Zone, which as stated earlier, has already been declared by the Israeli Army, as a closed military area since 1967. Along with the nature reserve area, the Bethlehem Governorate stands to lose in total some 71 percent of its land area if the Israeli plans go through.

The Israeli unilateral settlement activities in the Bethlehem Governorate constitute belligerent acts against the Palestinians population. The encroachment of the Israeli Segregation Wall on Bethlehem lands is a growing danger that threatens the development, the sustainability, and the very existence of the Palestinian people, as it does throughout the occupied Palestinian territory. It does not only deprive the Palestinians of their valuable agricultural and grazing lands, but it also puts physical barriers on their natural growth of towns and cities in Bethlehem Governorate and disconnects them from each other.

Despite international denunciation, Israel is proceeding with its unilateral plans to build the Segregation Wall, isolating and confiscating large tracts of the Bethlehem Governorate's lands. Eventually, Bethlehem will lose more than the physical link it has (or once had) with Jerusalem, but spiritually as well. Table 41 shows Bethlehem Governorate in the aftermath of the Israeli scheme.

Table 41: a look on what to become of the Bethlehem Governorate under Israeli unilateral activities to inflict facts on the ground.

Bethlehem	Area 659 km ²	100%	Remarks
Palestinian control	49.7	7.5	This include area "A" where Palestinians have comprehensive control
Palestinian Semi- control	36.5	5.5	This includes area "B" where Palestinians have administrative control.
Nature Reserve Area	126.2	19.2	Under Sharm Ash Sheikh Memorandum (Phase Three of March 2000, the area was set to go under Palestinian control. However, Israel still maintains control on it to this day
Area Under Israeli Control which includes Area C, The Israeli Declared Closed Military Area and the Israeli Segregation Zones Area.	446.7	67.8	Area under Israeli control located east of the Israeli Segregated Zone and the west of the Nature Reserve Area and the Closed Military Area. Most likely to be negotiated to turn over to Palestinian control at the time the negotiations between the Palestinians and Israeli side is resumed
Total	659.1	100	
Source: The Geographical Information System Unit, (GIS) - ARIJ 2009			

PART FIVE
General Needs Assessment in the Bethlehem
Governorate

5.1. Development Priorities and Needs in the Bethlehem Governorate

During ARIJ's field survey of the localities in the Bethlehem Governorate, a general needs assessment was conducted. The survey showed that 95% of the localities in the Bethlehem Governorate are in need of paving and constructing new roads, 77.5% of the localities stated that they need new schools to cover the great number of students, and 67.5% of the localities are in need of clinics and healthcare centers. In addition, the water networks in the Bethlehem Governorate need a great deal of attention, as 37.5% of the localities stated that they need new water networks.

As for the agricultural sector, 82.5% of the localities are in need of reclamation of their agricultural lands as well as building agricultural cisterns.

Table (42): Development Priorities and Needs in the Bethlehem Governorate, 2009/2010

Needs by Sector	Strongly Needed	Needed	Not a Priority
Infrastructural Needs (%)			
Opening and Pavement of Roads	95	5	0
Rehabilitation of Old Water Networks	60	23	17
Extending the Water Network to Cover New Built up Areas	57.5	30	12.5
Construction of New Water Networks	37.5	20	42.5
Rehabilitation/ Construction of New Wells or Springs	15	10	75
Construction of Water Reservoirs	62.5	20	17.5
Construction of a Sewage Disposal Network	62.5	17.5	20
Construction of a New Electricity Network	40	22.5	37.5
Providing Containers for Solid Waste Collection	62.5	27.5	10
Providing Vehicles for Collecting Solid Waste	35	22.5	42.5
Providing a Sanitary Landfill	37.5	12.5	50
Health Needs (%)			
Construction of New Clinics or Health Care Centers	67.5	17.5	15
Rehabilitation of Old Clinics or Health Care Centers	27.5	20	52.5
Purchasing of Medical Equipment and Tools	52.5	12.5	35
Educational Needs (%)			
Construction of New Schools	77.5	10	12.5
Rehabilitation of Old Schools	60	15	25
Purchasing of New Equipment for Schools	67.5	15	17.5
Agricultural Needs (%)			
Rehabilitation of Agricultural Lands	82.5	7.5	10
Building Rainwater Harvesting Cisterns	82.5	10	7.5
Construction of Barracks for Livestock	67.5	12.5	20
Veterinary Services	67.5	17.5	15
Seeds and Hay for Animals	70	15	15
Construction of New Greenhouses	62.5	20	17.5
Rehabilitation of Greenhouses	35	27.5	37.5
Field Crops Seeds	67.5	15	17.5
Plants and Agricultural Supplies	77.5	10	12.5

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

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

Based on the survey and the Participatory Rapid Appraisal (PRA) workshops conducted in the Bethlehem Governorate, the following concept papers were developed addressing the major needs for livelihood development in the Governorate.

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

Project Title	Rain Water Harvesting Systems for Domestic and Agricultural Uses					
Project Duration	36 months					
Estimated Budget	The total estimated project budget is US \$3,784,375. 25% of the cisterns construction’s cost will be as beneficiaries’ contribution.					
Stakeholders	The project stakeholders will be the Ministry of Agriculture (MoA), the Ministry of Local Government (MoLG), UNDP, and local and international Agricultural Associations and NGOs.					
Targeted Areas	The project will target several localities in three Agro-Eco zones clusters of the Bethlehem Governorate, as the following:					
	Eastern Cluster		Western Cluster		Southern Cluster	
	Locality	No. of cisterns	Locality	No. of cisterns	Locality	No. of cisterns
	Hindaza	50	Nahhalin	55	Marah Ma’alla	15
	Al ‘Ubeidiya	100	Al Jab’a	10	Marah Rabah	30
	Za’tara	75	Al Walaja	50	Wadi an Nis	15
	Jannatah	50	Wadi Fukin	20	Artas	20
	Al Maniya	20	Al Khader	10	Beit Fajjar	40
	Ash Shawawra	50	Husan	50	Al Manshiya	6
	Tuqu’	150				
Dar Salah	60					
	Total	555		195		125
	Grand Total	875				
	The project will target the southern, eastern and western parts of the Bethlehem Governorate, which include <i>Marah Ma’alla, Wadi an Nis, Marah Rabah, Beit Fajjar, Artas and Al Manshiya, in the southern part; Al ‘Ubeidiya, Hindaza, Tuqu’, Ash Shawawra, Al Maniya, Dar Salah, Za’tara and Jannatah in the eastern part; and Nahhalin, Al Jab’a, Al Walaja, Wadi Fukin, Al Khader and Husan in the western part.</i>					

<p>Map of Targeted Areas</p>	
<p>Beneficiaries</p>	<p>The project will target 875 families (approximately 5,680 individuals).</p>
<p>Project Description</p>	<p>The annual rate of rainfall in these areas ranges between 250 and 550mm. Water in the targeted areas is the most important factor for agriculture.</p> <p>This project will help in improving the rainwater harvesting systems in the targeted areas through the construction of 875 cisterns.</p> <p>This proposed project will complement the strategic plan of the MoA through increasing the productivity of the agricultural unit and improving access to water resources. The cisterns will act as a supplementary resource of water for the irrigation of plants and livestock consumption. This will assist in reducing the effects of drought and improve the livelihood of the targeted households.</p>
<p>Project Objectives</p>	<ul style="list-style-type: none"> • To harvest and store rainwater for summer use (for irrigation and livestock consumption). • To increase the productivity in warm and dry seasons. • To increase the total agricultural area in the Bethlehem Governorate. • To reduce the effects of drought. • To combat drought prevalence in the area. • To assist in reducing the water scarcity problems, especially during the summer season. • To improve the livelihood of the targeted families.

<p>Project Activities</p>	<ul style="list-style-type: none"> • Launching the project in partnership with the community committees and announcing application opportunities publicly. • The completed applications will be analyzed and investigated through conducting field visits and determining the beneficiaries according to the project selection criteria (the beneficiary should have agricultural land and/or livestock). • Provide the beneficiaries with an implementation manuals. • Constructing the 875 cisterns and providing the beneficiaries with the necessary technical support and agricultural extensions. • Supervising, monitoring and evaluating the implementation process. • Preparing the final reports (technical and financial) and disseminating the results.
<p>Expected Results</p>	<ul style="list-style-type: none"> • 875 cisterns for collecting and storing rainwater constructed in the targeted areas. • The rainwater harvesting and storing capacity increased by 61,250 cubic meters annually which equivalent to US\$ 64,000 / year. • The productivity of 610 dunums of cultivated land increased by utilizing supplementary irrigation.

6.2. Proposed Project for the Rehabilitation of Agricultural Springs

Project Title	Rehabilitation of Springs and Roman Cisterns					
Project Duration	18 months.					
Estimated Budget	The total budget is estimated at around US \$1,747,500. 25% of the cisterns construction's, pools rehabilitation, and drip irrigation system costs will be provided through beneficiaries' contributions.					
Stakeholders	The project stakeholders will be the Ministry of Agriculture (MoA), the Palestinian Water Authority (PWA), local authorities, civil society and NGOs.					
Targeted Areas	The project will target 12 localities in three Agro-Eco zones clusters in the Bethlehem Governorate, as the following:					
	Eastern Cluster		Western Cluster		Southern Cluster	
	Locality	No. of Roman Cisterns	Locality	No. of Springs	Locality	No. of Springs
	Hindaza	16	Battir	1	Artas	1
	Al 'Ubeidiya	10	Al Jab'a	2		
	Za'tara	10	Wadi Fukin	3		
	Al Maniya	10	Al Khader	3		
	Ash Sha-wawra	10	Husan	2		
	Tuqu'	20				
	Dar Salah	3				
Total	79		11		1	
Grand Total	12					
Map of Targeted Areas						

<p>Beneficiaries</p>	<p>Springs and Roman cisterns are not privately owned; they are public resources of water. Thus, most (if not all) members of the targeted communities will benefit from these interventions which, according to PCBS data, would occur close to the homes of 58,500 individuals.</p>
<p>Project Description</p>	<p>Springs are one of the most important natural resources of water in Palestine. Now more than ever, these springs need preservation and rehabilitation in order to act as supplementary sources of water. Also, most of these springs are located inside the Palestinian communities and controlled by the Palestinians (not the occupation authorities). The continuous decrease of water supply in the Palestinian Territory has affected all types of life activities, mainly in the agriculture sector.</p> <p>Moreover, most of the available springs are not efficiently utilized. For example, the absence of storage pools connected to the springs and the leaking of available pools causes large quantities of springs' water loss.</p> <p>Roman cisterns, in addition to functioning as source of water, act as one of the ruins and heritage of the Palestinian people who are living in the area, where shippers used to move with their folks and families during the grassing season and to stay and use the water for their own families and folks' needs. Shepherds usually abandon these areas when these cisterns are not functioning, so by rehabilitating them, the shepherds will move again to these areas.</p> <p>This project will assist in the rehabilitation of 12 springs and 12 water reservoirs (one for each spring), and rehabilitating 30 farmers irrigation pools. In addition, the project will help in the construction and rehabilitation of 500m of water canals, and the installation of a drip irrigation network for 100 dunums of land in the targeted areas.</p> <p>Also, the project will assist in the rehabilitation of 79 Roman Cisterns with a minimum capacity of 150m each.</p>
<p>Project Objectives</p>	<ul style="list-style-type: none"> • To effectively and efficiently utilize the available natural water resources. • To increase the total irrigated area, thus increasing the productivity of the land and eventually improving the livelihood of small farmers in the targeted areas. • To create job opportunities during and after the lifespan of the project.

Project Activities	<ul style="list-style-type: none"> • Formulating the project community committees in the targeted communities. • Finalizing the selection of targeted springs and Roman cisterns. • Announcing for the community to apply to benefit from the project activities and selecting beneficiaries based on the selection criteria. • Preparing the project implementation manual and the bidding package. • Rehabilitating 79 Roman cisterns in the eastern villages. • Rehabilitating 12 springs in the targeted areas. • Rehabilitating 12 agricultural pools. • Rehabilitating 30 farmers' irrigation pools. • Rehabilitating and constructing about 500m of water canals. • Providing a drip irrigation system for 100 dunums in the targeted localities. • Supervising, monitoring and evaluating the implementation process. • Preparing the final reports and disseminating the results.
Expected Results	<ul style="list-style-type: none"> • 12 springs and 79 Roman cisterns water preserving and efficiently using water. • 30 farmers stopping the leakage of their irrigation pools and improved their cultivations. • 100 farmers optimizing the use of water through using drip irrigation systems. • The water losses through the old piping system controlled. • Total irrigated agricultural area increased. • New job opportunities created. • Beneficiaries' livelihoods improved. • Agricultural production increased due to the increase in productivity of the agricultural unit.

6.3. Proposed Project for Land Reclamation and Rehabilitation

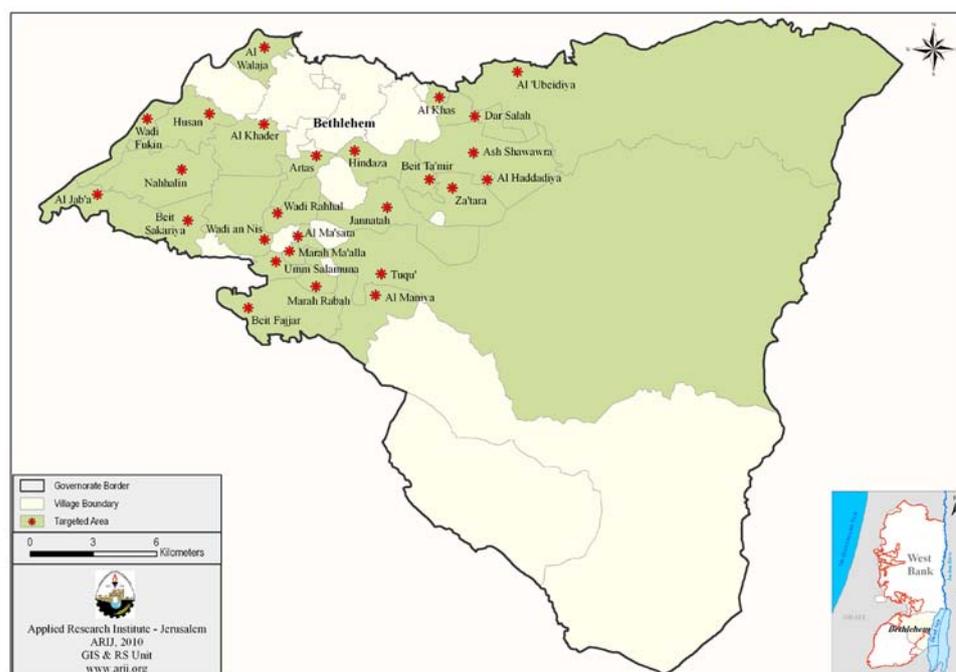
Project Title	Land Reclamation and rehabilitation for Plant Production
Project Duration	36 months
Estimated Budget	<p>The total targeted area is around 1,470 dunums, and the total cost of reclamation of one dunum is around US \$1,300. However, of the reclamation cost, 25% will be provided through beneficiaries' contributions.</p> <p>Therefore, the total budget is estimated at around US \$2,393,000</p>
Stakeholders	The project stakeholders will be the Ministry of Agriculture (MoA), the Ministry of Local Government (MoLG), UNDP, Agricultural Associations and NGOs.

The project will target many localities in three Agro-Eco zone clusters in the Bethlehem Governorate, including the following:

Eastern Cluster		Western Cluster		Southern Cluster	
Locality	Dunum	Locality	Dunum	Locality	Dunum
Hindaza	50	Nahhalin	80	Wadi Rahhal	50
Al 'Ubeidiya	100	Al Jab'a	50	Marah Ma'alla	20
Dar Salah	50	Al Walaja	55	Al Ma'sara	50
Za'tara	50	Wadi Fukin	50	Umm Salamuna	30
Jannatah	20	Al Khader	200	Marah Rabah	50
Al Maniya	50	Husan	45	Wadi an Nis	50
Ash Shawwra	50	Beit Sakariya	50	Artas	50
Beit Ta'mir	20			Beit Fajjar (Wadi al Batteekh area)	100
Al Khas & An Nu'man	50				
Tuqu'	100				
Total	540		530		400
Grand Total	1,470 dunums				

Targeted Areas

Map of Targeted Areas

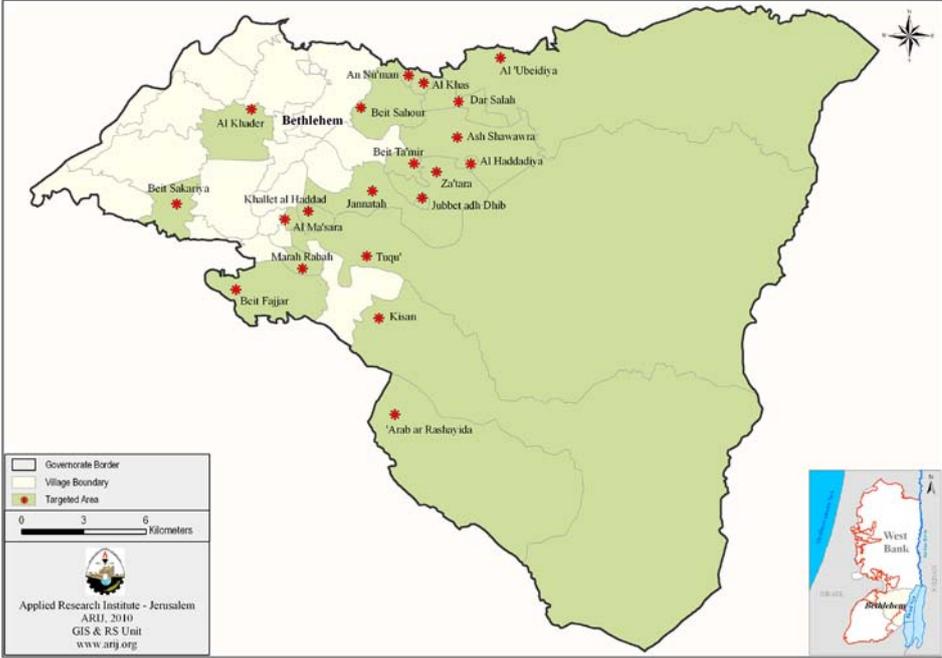


Beneficiaries

The project will target 360 families (approximately 2,340 individuals).

<p>Project Description</p>	<p>The project will assist in the reclamation and rehabilitation of approximately 1,470 dunums distributed in 25 localities in the Bethlehem Governorate. In addition, it will generate 25,000 working days for reclamation and 8,670 working days for the construction of 185 cisterns.</p> <p>The reclamation process will include the use of agricultural machines and bulldozers, terracing, building of walls or fencing, seedlings and the planting of fruit trees, in addition to constructing water cisterns (one cistern per 8-10 dunums).</p> <p>This proposed project fits with the strategic plan of the MoA through increasing the amount of cultivated areas, protecting the land from the occupation land confiscation procedures, creating job opportunities, improving the livelihood of the targeted families and through improving their access to food.</p>
<p>Project Objectives</p>	<ul style="list-style-type: none"> • To increase the total cultivated area in the Bethlehem Governorate by 1,470 dunums. • To create job opportunities for both genders and thus decreasing the high unemployment rate in the area. • To improve the livelihoods of the targeted families. • To reduce the effects of drought and soil degradation through land cultivation. • To improve the rainwater harvesting system by constructing 185 cisterns that would act as water reservoirs for supplementary irrigation. • To increase the amount of food produced and to enhance food security.
<p>Project Activities</p>	<ul style="list-style-type: none"> • Announcing the launch of the project and collecting the completed applications for land reclamation from land owners in the targeted localities. • Determining the targeted areas and beneficiaries according to the project selection criteria and field verification in cooperation with the formulated project community committees. • Preparing project implementation manual and the bidding packages. • Implementing the reclamation and rehabilitation of the targeted areas including terracing activities. • Providing the beneficiaries with the adequate technical support and extension. • Constructing the rainwater harvesting cisterns. • Cultivating the reclaimed and rehabilitated areas with the suitable crops. • Supervising, monitoring and evaluating the implementation process. • Preparing the final reports and disseminating the results.
<p>Expected Results</p>	<ul style="list-style-type: none"> • Agricultural land reclaimed and rehabilitated (1,470 dunums). • 185 rainwater harvesting cisterns constructed. • Planting materials distributed and planted. • Job opportunities created during and after the lifespan of the project. • Poverty alleviated through income increase. • Desertification reduced. • Productivity of the agricultural unit increased and food self-sufficiency induced.

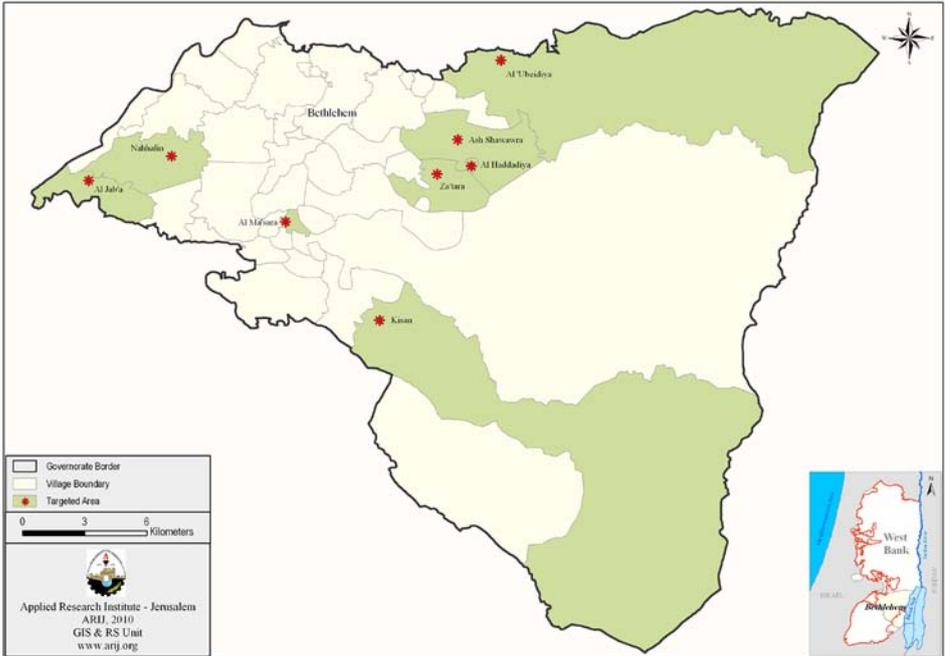
6.4: Proposed Project for Field Crops Production

Project Title	Improvement of the cultivation field crops and forages in the marginalized areas in the Bethlehem Governorate
Project Duration	24 months
Estimated Budget	<p>The total area targeted is around 6000 dunums, Therefore, the total budget is estimated at around US \$807,500</p> <p>The farmers will contribute with 20 percent of the seeds costs and the cooperatives will contribute with 25 percent of the required agricultural equipments.</p>
Stakeholders	The project stakeholders will be the Ministry of Agriculture (MoA), Local Agricultural Associations and NGOs.
Targeted Areas	<p>The project will target the marginalized area at the Bethlehem Governorate including: <i>Za'tara, Ash Shawawra, Dar Salah, Al 'Ubeidiya, Jannatah, Tuqu', Beit Fajjar, Marah Rabah, Beit Sakariya, Kisan, Jubbet adh Dhib, 'Arab ar Rashayida, Al Khader, Al Ma'sara, Khallet al Haddad, Al Khas & An Nu'man , Beit Sahour and Beit Ta'mir.</i></p>
Map of Targeted Areas	 <p>The map shows the Bethlehem Governorate with various villages marked. Targeted areas are indicated by red stars and labels: An Nu'man, Al Khas, Al 'Ubeidiya, Dar Salah, Beit Sahour, Ash Shawawra, Beit Ta'mir, Al Haddadiya, Za'tara, Jubbet adh Dhib, 'Arab ar Rashayida, Kisan, Tuqu', Marah Rabah, Beit Fajjar, Beit Sakariya, Khallet al Haddad, Al Ma'sara, Jannatah, and Al Khader. The map includes a legend for Governorate Border, Village Boundary, and Targeted Area, a scale bar (0-6 Kilometers), and a north arrow. An inset map shows the location of Bethlehem within the West Bank. The map is credited to Applied Research Institute - Jerusalem, ARJI, 2010, GIS & RS Unit, www.arji.org.</p>
Beneficiaries	The project will directly benefit 1200 families (approximately 7,800 individuals).

<p>Project Description</p>	<p>During the last few years, the Bethlehem Governorate as well as other Governorates in the West Bank was suffering from the drought seasons which had a large negative impact on Palestinian farmers and herders. Up to 99.8% of the area cultivated with field crops and fodder in the Bethlehem Governorate is rain fed. As a direct result of dry conditions in the south-eastern West Bank, up to 50% of the field crop seeds and fodder production forages were lost this year. This is severely threatening the availability of seeds for the coming agricultural seasons, at a time when the Palestinian farmers are already suffering from high prices of agricultural inputs, especially the seeds of field crops and fodder to feed livestock and the shortage in the availability of local adapted varieties.</p> <p>This project aims to purchase from local farmers (agricultural cooperatives) field crops and fodder seeds of the local drought resistant varieties and redistribute them to the most vulnerable drought-affected farmers. This will enable them to replant their fields next season, increase the size of cultivated areas, increase plant production and provide more feed to increase the animal production. Ultimately, the project will improve the people in the Bethlehem Governorate's, access to affordable nutritious food and it will assist in reducing food prices.</p>
<p>Project Objectives</p>	<ul style="list-style-type: none"> • To improve the livelihood of the beneficiaries' families. • To increase the cultivated areas with field crops and forages. • To increase the produced amounts of food grains and legumes. • To improve animal feed production and forage. • To improve the productivity of livestock (red meat and milk production). • To decrease the cost of plant production. • To reduce the effect of drought. • To decrease the land degradation and soil erosion of the marginalized areas. • To create jobs for the poorest families.
<p>Project Activities</p>	<ul style="list-style-type: none"> • Assist 1200 of the most vulnerable drought-affected farmers in planting 6000 dunums with suitable local varieties of wheat, barley, common vetch, better vetch and chickpeas. • Providing vital and timely extension services to beneficiary households, with the assistance of MoA. • Establish a participatory mechanism for project activities (seed purchase, farmers' selection, seed distribution and monitoring) through creating project community committees in the targeted areas. Also, coordinating with the existing active agricultural cooperatives to create a sustainable seed production and a distribution system. • Improving the capacities of 8 active agricultural cooperatives in the seed management and improving the farmers' coordination and collective purchasing and selling systems, as well as creating a food security system. • Providing the created social seed bank (with the participation of the targeted 8 cooperatives) with the required equipments, machinery, and facilities. • Building farmers' knowledge in crop management, seed storage and Integrated Pest Management as well as cooperation. • Improve Farmer cooperation.

<p>Expected Results</p>	<ul style="list-style-type: none"> • • Increased income and production of beneficiary farmers. • • 540 metric tons of wheat, barley, lentils and common and bitter vetch seeds produced. • • 1500 tons of green fodder and dry hay produced. • • 500 men and women farmers linked with effective cooperatives. • • A social seed bank created and provided with suitable equipments, machineries' and facilities. • • Capacity built of 8 agricultural cooperatives in developing and managing the social seed bank and the cooperative system management. • • Capacity built of 1200 farmers in crop and pest management, seed storage and coordination.
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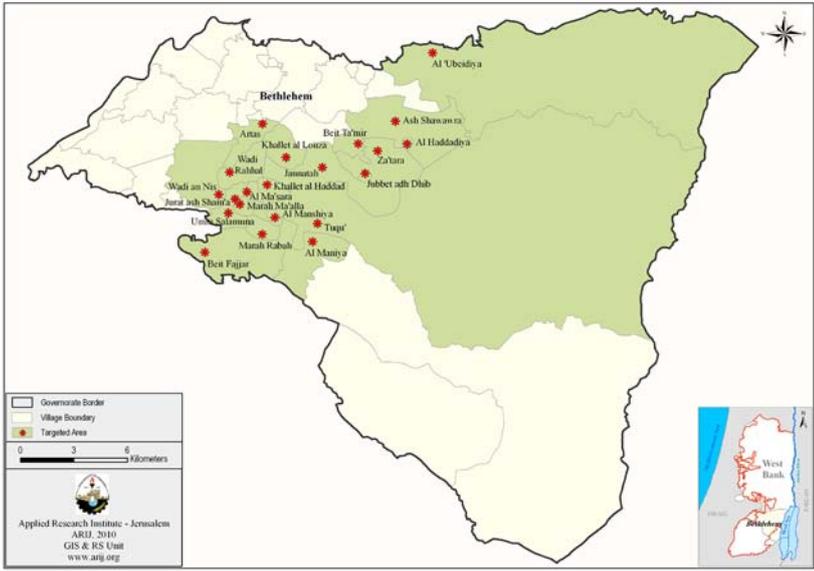
6.5. Proposed Project for Livestock Production

<p>Project Title</p>	<p>Improve the household self production of farm livestock through improving production conditions for small ruminants (sheep and goats)</p>
<p>Project Duration</p>	<p>24 months</p>
<p>Estimated Budget</p>	<p>The total estimated budget is US \$229,000. The community will contribute with 20 percent of the provided assets and infrastructure.</p>
<p>Stakeholders</p>	<p>The project stakeholders will be the Ministry of Agriculture (MoA), local Agricultural Association and NGOs.</p>
<p>Targeted Areas</p>	<p>Al 'Ubeidiya, Za'tara, Kisan, Ash Shawawra, Nahhalin, Al Jaba'a, Al Ma'sara.</p>
<p>Map of Targeted Areas</p>	
<p>Beneficiaries</p>	<p>100 poor livestock farmers who own 15-30 heads.</p>

<p>Project Description</p>	<p>The small ruminant farms are distributed in many rural localities (especially in the eastern rural area) in the Bethlehem governorate, where the rearing conditions are quite difficult. Additionally, due to limited infrastructure in the household, the poor farmers find themselves insisting to use part of their small house to protect their animal from the heat and cold which results in reducing the quality of their lives and increasing the environmental problems inside the households.</p> <p>Additionally, such growing conditions usually reduce the amount of milk produced, growth rate, and fertility of the animals. On the other hand, diseases and death rates increase which affect the income of these severely poor people.</p> <p>Therefore, assisting those poor households who own 15-30 heads to improve the growing conditions of their small flocks, through rehabilitating the existing farms, sheds, watering and feeding systems as well as improving their sanitation conditions, would be extremely beneficial. This project will also provide the beneficiaries with some additional feeds to get to their animals to produce more milk and meat, which would improve their food security and increase their income through selling the excess products.</p>
<p>Project Objectives</p>	<ul style="list-style-type: none"> • To alleviate the poor living conditions of 100 impoverished and vulnerable agricultural households in the marginalized areas of the Bethlehem Governorate. • To improve the vulnerable households' capacity to produce more food for both household consumption and market. • To increase the capacities and skills of targeted households in agricultural practices, agricultural planning and decision-making, especially among the women farmers. • To increase the productivity of small ruminants farms (meat and milk). • To increase the nutritional status for targeted household members and to increase the access of their communities to more food.
<p>Project Activities</p>	<ul style="list-style-type: none"> • Project announcement, establishing community committees and beneficiaries selection. • Conducting project kickoff meetings with the Agricultural sector stakeholders, including the MoA, and active NGO's in the Bethlehem Governorates. • Selecting the targeted households (based on the field investigation with full cooperation with the project community committees) and agreement signing. • Preparing a project implementation manual. • Implementing the project activities (rehabilitating the existing small farms, improving the farms sanitation, providing veterinary services in cooperation with the MoA, providing suitable equipments and tools to improve the farm management system, training the farmers women on milk processing and hygiene applications, and building the farmers capacities in cooperation). • Reporting and disseminating the information. • Monitoring and Evaluating.

<p>Expected Results</p>	<ul style="list-style-type: none"> • Up to 100 livestock sheds, with an average area of 30m², each will be rehabilitated. • Up to 3000 square meters of sheds and farms rehabilitated with a total capacity of 3000 heads. The sheds play an important role in the protection of livestock from sun, rain and cold which will result in increasing the productivity of the small ruminants. • Animal feeds distributed to the rehabilitated farms. • The productivity and production of the livestock increased (new born, meat and milk) • Access of Palestinian people to milk and meat increased with cheaper prices.
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6.6. Proposed Project for Small-Scale Waste Water Treatment and Reuse

<p>Project Title</p>	<p>Utilizing Small Scale Waste Water Treatment Units for Waste Water Management and reuse</p>
<p>Project Duration</p>	<p>30 months</p>
<p>Estimated Budget</p>	<p>The total estimated budget will be about US \$1,650,000, taking into consideration that one unit of small waste water treatment per house (including drip irrigation and seedlings) costs about US \$3,300 including project management and training cost. The beneficiaries' contribution will be 20% of the unit establishment cost with US \$660/households. Thus, the total beneficiaries' contribution will reach to US \$264,000.</p>
<p>Stakeholders</p>	<p>The project stakeholders will be the Palestinian Water Authority (PWA), local authorities, civil society, and the NGOs.</p>
<p>Targeted Areas</p>	<p>The project will target the following localities: Ash Shawawra, Tuqu', Al Maniya, Jubbet adh Dhib, Jannatah, Za'tara, Khallet al Louza, Al 'Ubeidiya, Beit Ta'mir, Umm Salamuna, Al Ma'sara, Marah Rabah, Wadi an Nis, Marah Ma'alla, Artas, Wadi Rahal, Beit Fajjar, Al Manshiya, Jurat ash Sham'a, and Khallet al Haddad.</p>
<p>Map of Targeted Areas</p>	 <p>The map displays the West Bank region with several localities highlighted in green, indicating they are targeted areas for the project. These localities include: Al 'Ubeidiya, Ash Shawawra, Beit Ta'mir, Khallet al Louza, Al Haddadiya, Za'tara, Jubbet adh Dhib, Jannatah, Marah Rabah, Wadi an Nis, Al Ma'sara, Marah Ma'alla, Al Manshiya, Tuqu', Beit Fajjar, and Jurat ash Sham'a. The map also shows the Governorate Border and Village Boundary. A legend, scale bar (0-6 km), and north arrow are included. The Applied Research Institute - Jerusalem (ARIJ) logo and contact information are at the bottom left.</p>

Beneficiaries	This project will target 400 families (2,200 individuals).
Project Description	<p>The targeted areas use cesspits and open channels to dispose of their waste water. This untreated wastewater is dumped in open areas; leading to health problems, such as the spread of diseases for the neighbors, insects and environmental problems such as the pollution of water resources (springs & cisterns).</p> <p>These targeted areas will be provided with small scale waste water treatment units, since the unorganized housing distribution in these areas makes it hard to install medium or large sized plants.</p>
Project Objectives	<ul style="list-style-type: none"> • To protect water springs and cisterns from waste water pollution resulting from cesspits. • To protect agricultural lands from waste water pollution. • To protect the environment and to reduce health threats. • To use the treated water as an alternative source for irrigation. • To reduce the costs of cesspits' waste water disposal. • To increase environmental awareness in the management of waste water.
Project Activities	<ul style="list-style-type: none"> • Holding introductory meetings to announce the launch of the project, formulate the project community committee and to provide the local communities with a description of the project. • Holding awareness campaigns to increase the environmental awareness concerning the importance and management of waste water treatment. • Preparing a preliminary study to determine and select the beneficiaries and the suitable locations for the construction of small wastewater treatment units. • Developing a project implementation manual and calling for bids. • Constructing the waste water treatment units with drip irrigation networks. • Provide the benefited households with the suitable fruit tree seedlings. • Paying follow-up visits to the beneficiaries. • Monitoring and evaluating the process. • Preparing the final reports and disseminating the results.
Expected Results	<ul style="list-style-type: none"> • 2,200 individuals (400 housing units) will have a good waste water treatment system. • Environment and health conditions improved in the areas where the small scale waste water treatments were installed. • Cost of waste water disposal reduced. • Environment protected. • Health threats decreased. • Treated waste water available for agricultural uses which reduce the pressure on the domestic water. • Agricultural irrigated areas increased by 200 dunums.

6.7. Proposed Project for Waste Water Treatment and Reuse in Wadi Saif – Beit Fajjar

Project Title	Mitigating the Impact of Wadi Saif Wastewater Stream on Health, Environment and Water Resources
Project Duration	36 months.
Estimated Budget	The total estimated budget is US \$4,777,500. The farmers will contribute with 25% for land reclamation and irrigation networks.
Stakeholders	The project stakeholders will be the Ministry of Agriculture (MoA), the Palestinian Water Authority (PWA), the Ministry of Local Governorates, Local NGOs and Local Agricultural Societies.
Targeted Areas	Beit Fajjar from Bethlehem Governorate and Kuziba and Sa'eer from Hebron Governorate.
Map of Targeted Areas	<p>The map displays the geographical layout of the project area. A yellow dashed line traces the path of the sewage water canal, which flows from the upper right towards the lower left. A red dot marks the location of the Waste Water Treatment Unit. The map is divided into sections by Governorate borders, with labels for Beit Fajjar, Kuziba, Sa'eer, and Hamrushi. A scale bar at the bottom indicates distances up to 0.5 kilometers. An inset map in the bottom right corner shows the West Bank region of Israel, with the project area highlighted. The Applied Research Institute - Jerusalem (ARIJ) logo and contact information are located in the bottom left corner of the map area.</p>
Beneficiaries	29,000 persons, the population of the communities where the open sewage stream flow.

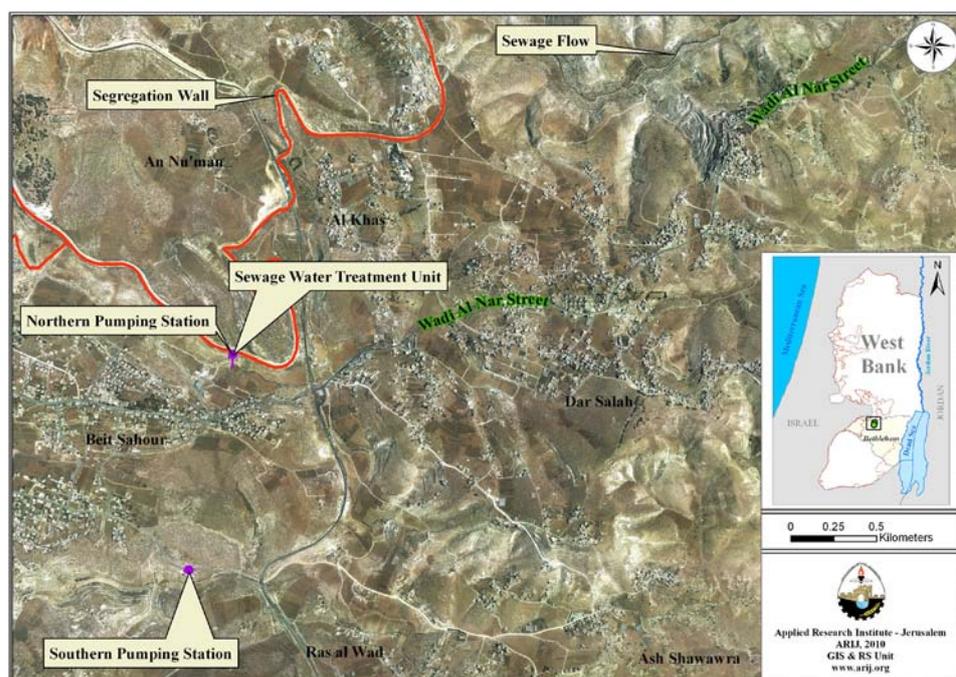
<p>Project Description</p>	<p>Waste water generated by Al ‘Arrub refugee camp is estimated at 1000 cubic meters daily. This wastewater flows through Wadi al ‘Arrub, towards the east through closed pipes, passes through Shuyukh al ‘Arrub, and then flows, as an open stream, in the wadis of Kuziba and Sa’eer from Hebron Governorate and Wadi Saif of Beit Fajjar lands from the Bethlehem Governorate, it then flows towards the Eastern Slope reaching ‘Arab ar Rashayida and Ar Rawa’ in bedwin troops especially in rainy months.</p> <p>The Flowing wastewater in Wadi Saif creates environmental and health problems to the surrounding areas and its local population. Additionally, the flooding of sewage water affects the surrounding agricultural lands. The wastewater flow also affects the soil quality and pollutes and damages the cultivated crops. Up to 2000 agricultural lands are affected by the existing wastewater stream, which are mainly cultivated with fruit trees.</p> <p>Furthermore, Wadi Saif is located over a permeable geological area, which is considered as a water catchment area that supports Tuqu’ Ground Water Aquifer with harvested rainwater. Thus, the continuous flow of wastewater in this environmentally sensitive area will create an environmental crises; resulting in polluting and deteriorating the ground water quality of the Eastern Aquifer.</p> <p>Thus the project aims to solve the problem of the generated wastewater through establishing three wastewater treatment units and reuse it for irrigation.</p>
<p>Project Objectives</p>	<ul style="list-style-type: none"> • To improve the wastewater management in Wadi Saif area. • To improve the environmental and health conditions in Wadi Saif area. • To increase the agricultural areas by utilizing the treated wastewater for irrigation. • To build the awareness of farmers to how to utilize treated wastewater to irrigate their trees and to avoid using the untreated wastewater. • To improve the environmental and health conditions in the Wadi Saif and the surrounding communities. • To improve the income generation of local communities. • To protect the water catchment areas, surface water and groundwater resources from potential contamination. • To increase the food security of local communities. • To increase human resource capacities and knowledge. • To assist in lowering the unemployment rate in the surrounding areas.

Project Activities	<ul style="list-style-type: none"> • Constructing 2km of waste water main pipes in the populated areas in order to mitigate the impact of wastewater flow in open streams. • Establishing 3 wastewater treatment units with a capacity of 350 cubic meters per day, each. • Providing main pipelines to distribute the treated wastewater to farmers. • Training local authorities on the management of wastewater taking into consideration the local circumstances. • Training local communities and farmers to improve their awareness regarding the importance of treating the wastewater and how to utilize it for irrigation. • Creating an association to follow up, monitor and manage the wastewater discharge in Wadi Saif area. • Rehabilitating the polluted lands to become suitable for cultivation. • Provide the farmers with suitable fruit tree seedlings.
Expected Results	<ul style="list-style-type: none"> • The quality of water catchment areas, surface water and ground water resources in the targeted area conserved and improved. • The irrigation water increased by 1000 cubic meters per day. • Agricultural areas increased by 1200 dunums. • Food security increased at local level. • New friendly technologies at feasible costs adopted. • Jobs created at local level. • Health and environmental conditions improved. • Cost of waste water management reduced. • Awareness regarding waste water management, gardening and the use of new technologies improved. • A wastewater management system operating and functional.

6.8. Proposed Project for Waste Water Treatment and Reuse in the Northern Part of Beit Sahour

Project Title	Establishing wastewater treatment unit in the Northern part of Beit Sahour.
Project Duration	36 months.
Estimated Budget	The total estimated budget is US \$4,865,000. The farmers will contribute with 25% for land reclamation and irrigation networks.
Stakeholders	The project stakeholders will be the Beit Shour Municipality, Ministry of Agriculture (MoA), the Palestinian Water Authority (PWA), the Ministry of Local Governorates, Local NGOs, Local Agricultural Societies.
Targeted Areas	Beit Sahour as main beneficiary and Dar Salah and Al Khas & An N'uman as sub beneficiaries.

Map of Targeted Areas



Beneficiaries

Beit Sahour people and the farmers of the other close localities (16,300 persons).

Project Description

The Beit Sahour generated wastewater from sewage network and evacuated cesspits (3500-4000 cubic meters per day) discharge into the valleys toward Wadi an Nar without treatment. This wastewater is considered a main threat to the ground water as this area is a water catchment for the ground water eastern aquifer. Most of the generated wastewater is from domestic compared to the generated wastewater from industries and storm rainwater. Beit Sahour has two pumping Stations: one is located in the southern part (receiving 1500-200 cubic meters daily) and another is located in the northern part of the city (receiving 2000 cubic meters daily).

The total amount of wastewater which is about 3500-4000 cm/day is discharged

Through this project a wastewater treatment plant will be established at the site of the northern wastewater pump station. The treatment plant will treat up to 1000 cubic meters daily of the wastewater arriving to the southern pumping station. This plant will treat up to 50% of the arriving wastewater to the pumping station. The reclaimed wastewater will be used for irrigation of agricultural lands in the area surrounding the treatment plant.

Additionally, awareness and capacity building campaign will be conducted to increase the farmers awareness about the proper usage for the treated wastewater and which fruit trees they can irrigate. Additionally, the community awareness regarding the importance of wastewater treatment will be improved.

<p>Project Objectives</p>	<ul style="list-style-type: none"> • To improve the wastewater management for beit Sahour/Wadi An-Nar. • To improve the environmental and health conditions in the north part of Beit Sahour and in the wadis where wastewater follow. • To increase the agricultural areas by utilizing the treated wastewater for irrigation. • To improve the environmental and health conditions in the Wadi An-Nar and the surrounding communities. • To improve the income generation of the local communities. • To protect the water catchment areas, surface water and groundwater resources from potential contamination. • To increase the food security of local communities. • To increase human resource capacities and knowledge. • To assist in lowering the unemployment rate in the surrounding areas.
<p>Project Activities</p>	<ul style="list-style-type: none"> • Establishing large wastewater treatment unit with a capacity of 1,000 cubic meters per day, each. • Providing main pipelines to distribute the treated wastewater to farmers or pumping it to distribution station. • Training local authorities on the management of wastewater taking into consideration the local circumstances. • Creating an association leaded by Beit Sahour Municipality to follow up, monitor and manage the wastewater treatment plant. • Rehabilitating the polluted lands to become suitable for cultivation. • Planting additional 1,200 dunums of fruit trees.
<p>Expected Results</p>	<ul style="list-style-type: none"> • The quality of water catchment areas, surface water and ground water resources in the targeted area conserved and improved. • The irrigation water increased by 1,000 cubic meters per day. • Agricultural areas increased by 1200 dunums. • Food security increased at local level. • New friendly technologies at feasible costs adopted. • Jobs created at local level. • Health and environmental conditions improved. • Cost of waste water management reduced. • Awareness regarding waste water management, gardening and the use of new technologies improved. • A wastewater management system operating and functional.

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