

# Wadi Rahhal Village Profile



Prepared by

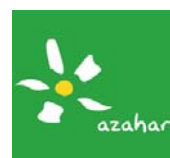


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## Background

This booklet is part of a series of booklets, which contain compiled information about each city, town, and village in Bethlehem Governorate. These booklets came as a result of a comprehensive study of all localities in Bethlehem Governorate, which 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," the project funded by the Spanish Agency for International Cooperation for Development (AECID) and the Azahar Program.

The "Village Profiles and Azahar Needs Assessment" 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 unsecure political, economic and social conditions in Bethlehem Governorate with particular focus on the Azahar program objectives and activities concerning water, environment, and agriculture.

The project's objectives are to survey, analyze, and document the available natural, human, socioeconomic and environmental resources, and the existing limitations and needs assessment for the development of the rural and marginalized areas in Bethlehem Governorate. In addition, the project aims at preparing strategic developmental programs and activities to mitigate the impact of the current political, social, and economic instability with the focus on the agricultural sector.

All locality profiles in Arabic and English are available online at <http://proxy.arij.org/vprofile>.

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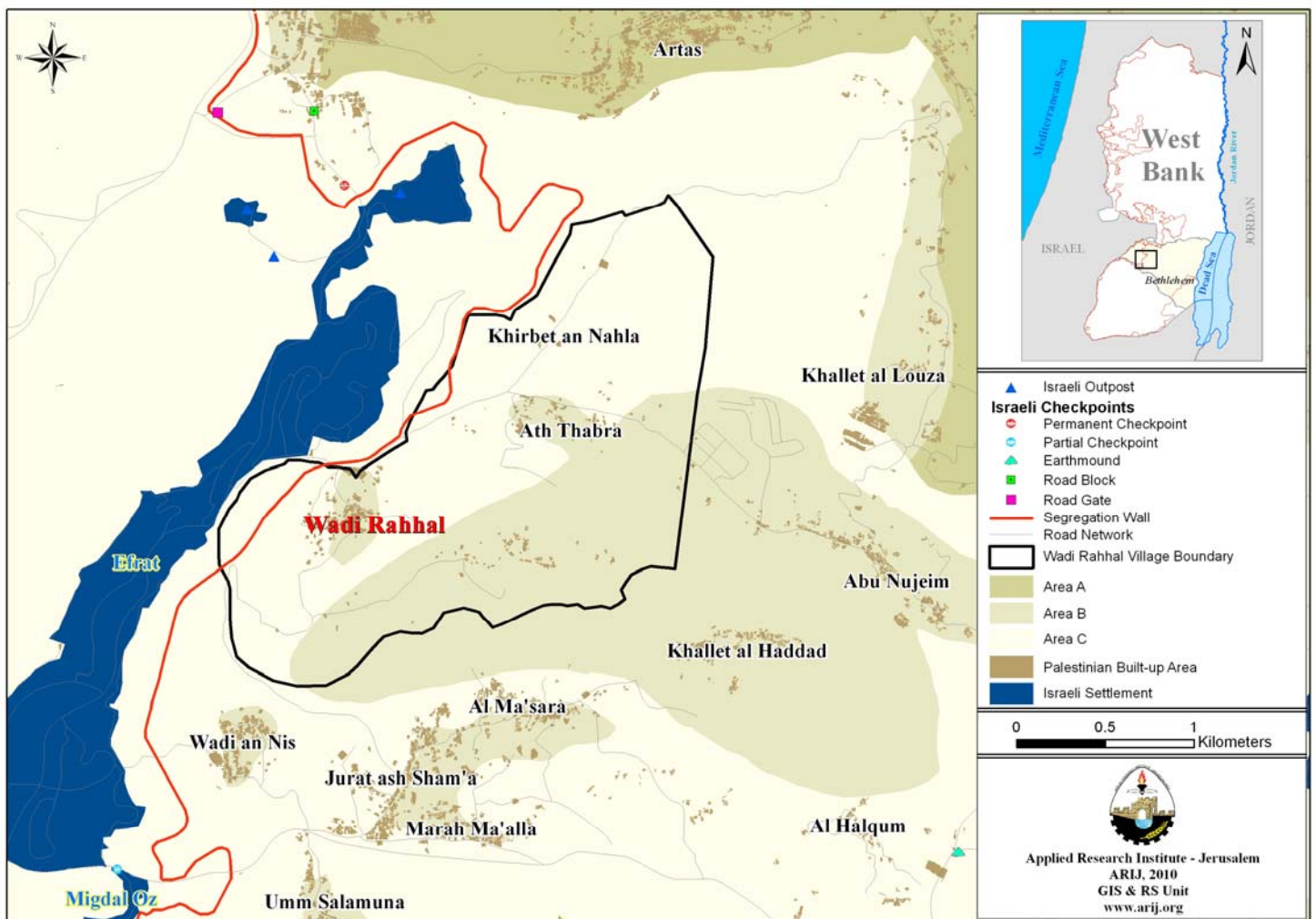
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# Wadi Rahhal Village Profile

## Location and Physical Characteristics

Wadi Rahhal is a Palestinian village in Bethlehem Governorate located 5.7km (horizontal distance) south of Bethlehem City. Wadi Rahhal is bordered by Jannatah town to the east, Al Khadr town to the north, Wadi an Nis village to the west, and Jurat ash Sham'a village to the south (See map 1).

Map 1: Wadi Rahhal location and borders



Wadi Rahhal is located at an altitude of 894m above sea level with a mean annual rainfall of 643mm. The average annual temperature is 16° C, and the average annual humidity is about 61 percent (ARIJ GIS, 2009).

Since 1996, Wadi Rahhal has been governed by a village council which is currently administrated by nine members appointed by the Palestinian Authority. There are no employees working in the council, and the village council does not own a permanent headquarters.

It is the responsibility of the village council to provide a number of services to the residents of Wadi Rahhal, including:

1. Infrastructure services such as water and electricity.
2. Solid waste collection, road construction and restoration, street cleaning, and social development services.
3. Implementation of projects and case studies for the Village.
4. Organization of the construction and licensing processes.

## History

The name Wadi Rahhal, which means the valley of Rahhal, came in relation to a neighboring valley that was owned by a man named Rahhal.

Wadi Rahhal village dates back to the year 1890, and its residents originate from Al Fawaghra neighborhood in Bethlehem.

Wadi Rahhal village also includes another three localities; Al Beida, Ath Thabra, and Khirbet an Nahla.

**Photo of Wadi Rahhal**



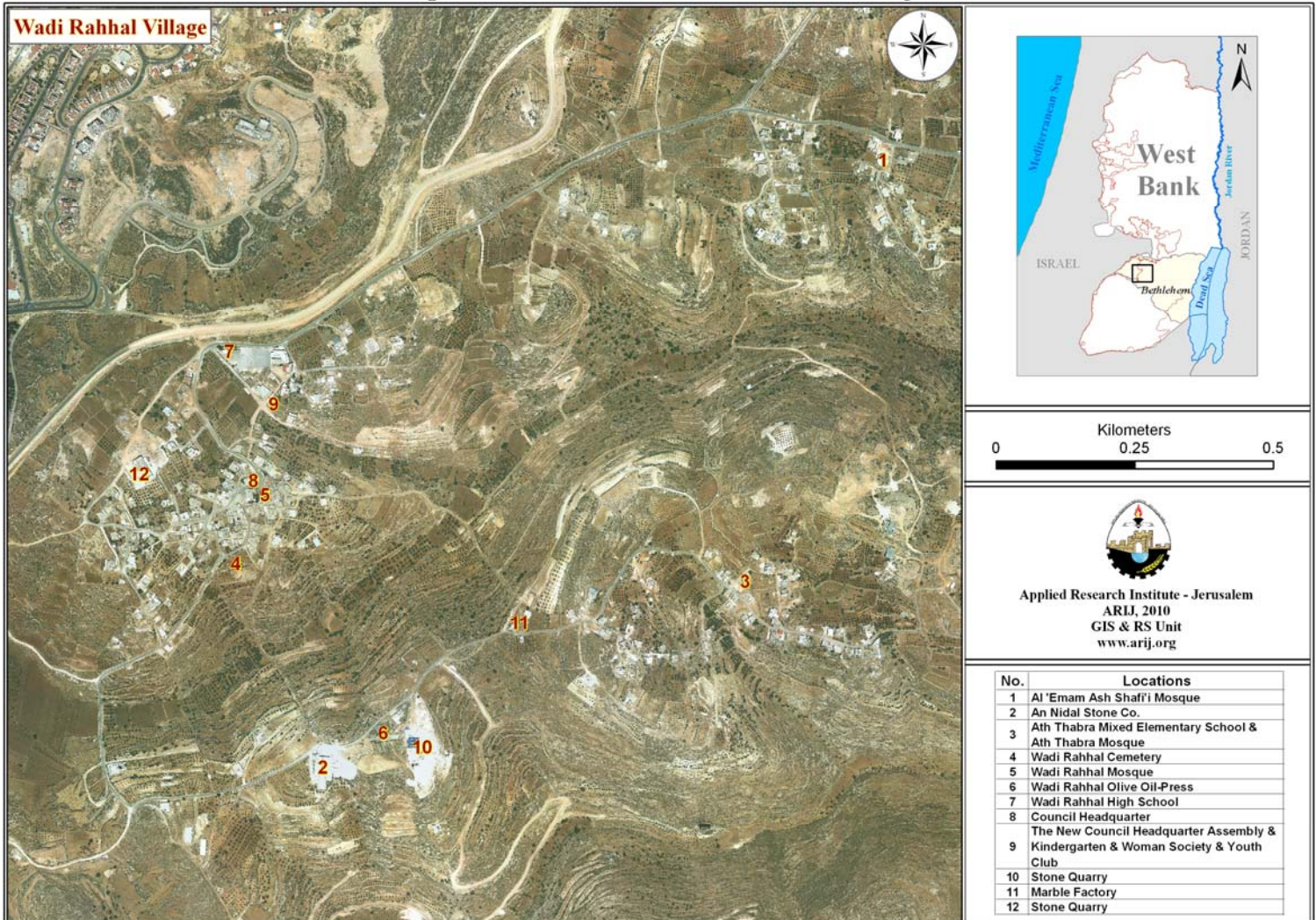


## Religious and Archaeological Sites

In terms of religious establishments, there are three mosques in Wadi Rahhal: Al ‘Emam ash Shafi’i Mosque, Ath Thabra Mosque, and Wadi Rahhal Mosque.

There are no archaeological sites in the village (See map 2).

**Map 2: Main locations in Wadi Rahhal village**



## Population

According to the Palestinian Central Bureau of Statistics (PCBS), the total population of Wadi Rahhal in 2007 was 1,419; of whom 764 are males and 655 are females. There are 278 households living in 301 housing units.

### Age Groups and Gender

The General Census of Population and Housing carried out by PCBS in 2007 showed the distribution of age groups in Wadi Rahhal is as follows: 43.5 percent are less than 15 years, 52.6 percent are between 15 - 64 years, and 2.4 percent are 65 years and older. Data also showed that the sex ratio of males to females in the village is 116.6:100, meaning that males constitute 53.8 percent of the population, and females constitute 46.2 percent of the population.

### Families

The inhabitants of Wadi Rahhal village are composed of several families, mainly: 'Abed Allah Ibrahim, Khalawi, Abu 'Aahoor, and Hijazi.

## Education

According to the results of the PCBS Population, Housing and Establishment Census-2007, the illiteracy rate among Wadi Rahhal population is about 8.5 percent, of whom 65.3 percent are females. Of the literate population, 16.7 percent can read and write, 34 percent had elementary education, 33 percent had preparatory education, 11.6 percent had secondary education, and 4.5 percent completed higher education. Table 1, shows the educational level in the village of Wadi Rahhal, by sex, and educational attainment in 2007.

Sex	Illiterate	Can read & write	Elementary	Preparatory	Secondary	Associate Diploma	Bachelor	Higher Diploma	Master	PhD	Total
M	27	71	168	148	57	8	8	-	1	-	<b>489</b>
F	51	69	116	128	40	8	12	-	1	-	<b>425</b>
<b>T</b>	<b>78</b>	<b>140</b>	<b>284</b>	<b>276</b>	<b>97</b>	<b>16</b>	<b>20</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>914</b>

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



In regards to the basic and secondary education institutions and schools in Wadi Rahhal in the academic year 2008/2009, there are two public mixed schools in the village, both run by the Palestinian Ministry of Higher Education. There are no private schools in Wadi Rahhal. See Table 2.

In the village there are 403 students; 26 teachers, and 19 classes (Directorate of Education in Bethlehem, 2009). It should be noted here that the average number of students per teacher in the school is nearly 16, while the average number of students per class is approximately 22.

School Name	Supervising Authority	Sex
Wadi Rahhal Mixed High School	Government	Mixed
Thabra Mixed Elementary School		

**Source:** Directorate of Education in Bethlehem, 2009

Furthermore, there is one kindergarten in Wadi Rahhal; Wadi Rahhal Kindergarten, which is run by a private body and has a total number of 52 children (Wadi Rahhal Village Council, 2010).

## Health Status

There are no health facilities available in Wadi Rahhal village; as there are no health centers or an ambulance in the village. In emergency cases, residents of Wadi Rahhal use Bethlehem hospitals and health centers, such as: Beit Jala Governmental Hospital (Al Hussein), which is about 13km from the village, and the Caritas Hospital.

The health sector in Wadi Rahhal faces several obstacles, mainly:

1. The absence of a health center in the village to provide health services to its residents.
2. The long distance between the village and health centers in the neighboring villages.

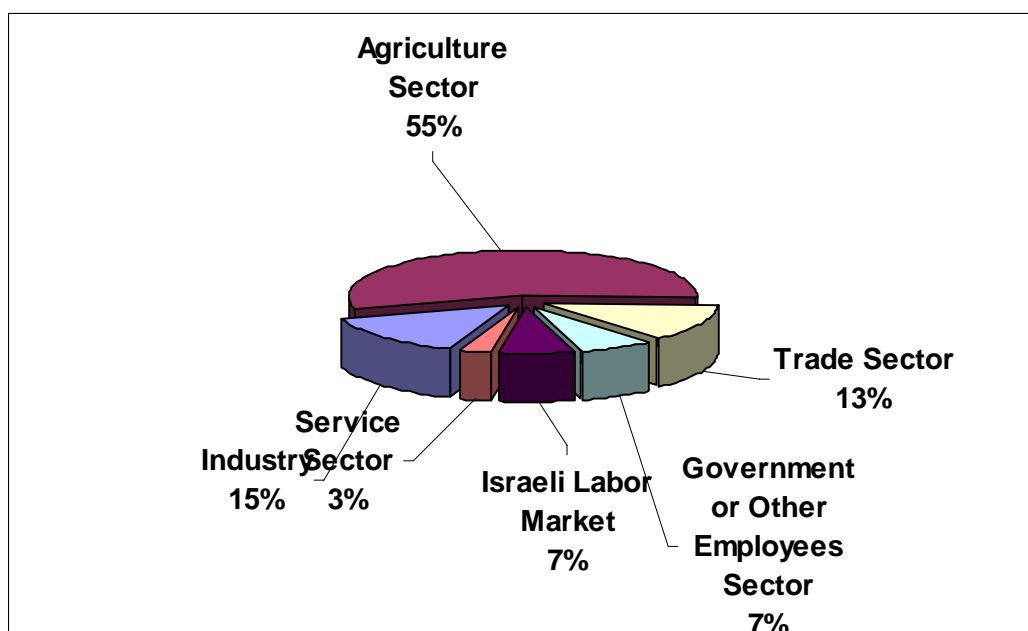
## Economic Activities

The economy in Wadi Rahhal is dependent on several economic sectors, mainly: the agricultural sector, which absorbs 55 percent of the village workforce (See Figure1).

The results of a field survey for the distribution of labor by economic activity in Wadi Rahhal are the following:

- Agriculture Sector (55%)
- Industry (15%)
- Trade Sector (13%)
- Government or Other Employees Sector (7%)
- Israeli Labor Market (7%)
- Services Sector (3%)

**Figure 1: Economic Activity in Wadi Rahhal Village**



There are some economic and industrial activities in Wadi Rahhal, mainly: stone and marble industry, as there are several stone quarries in the village, in addition to one barber shop and 8 grocery stores.

As a result of the Israeli occupation and restrictions, the economic status of the population has severely declined, as many citizens have lost their jobs and have become unemployed, thus forcing them to work in the service sector and agricultural activities, as a last resort for obtaining a minimum income.

The unemployment rate in Wadi Rahhal has reached about 30 percent. It was found that the most vulnerable social groups in the town, as a result of Israeli actions, are:

1. Workers in agricultural activities.

2. Workers in stone quarries.
3. Workers in trade sector.

### Labor Force

According to the PCBS Population, Housing, and Establishment Census-2007, 33 percent of Al Ma'sara population was economically active, of whom 88.1 percent were employed, and 67 percent were not economically active, 48.4 percent were students and 38.3 percent were housekeepers (See table 3).

SEX	Economically Active				Not Economically Active						Total
	Employed	Currently Unemployed	Unemployed (Never worked)	Total	Students	House-keeping	Unable to work	Not working & Not looking for work	Other	Total	
M	241	33	3	<b>277</b>	159	-	42	2	8	<b>211</b>	<b>489</b>
F	25	-	-	<b>25</b>	137	234	25	-	4	<b>400</b>	<b>425</b>
T	266	33	3	<b>302</b>	296	234	67	2	12	<b>611</b>	<b>914</b>

Source: PCBS, March 2009. Population, Housing and Establishment Census-2007, Final Results

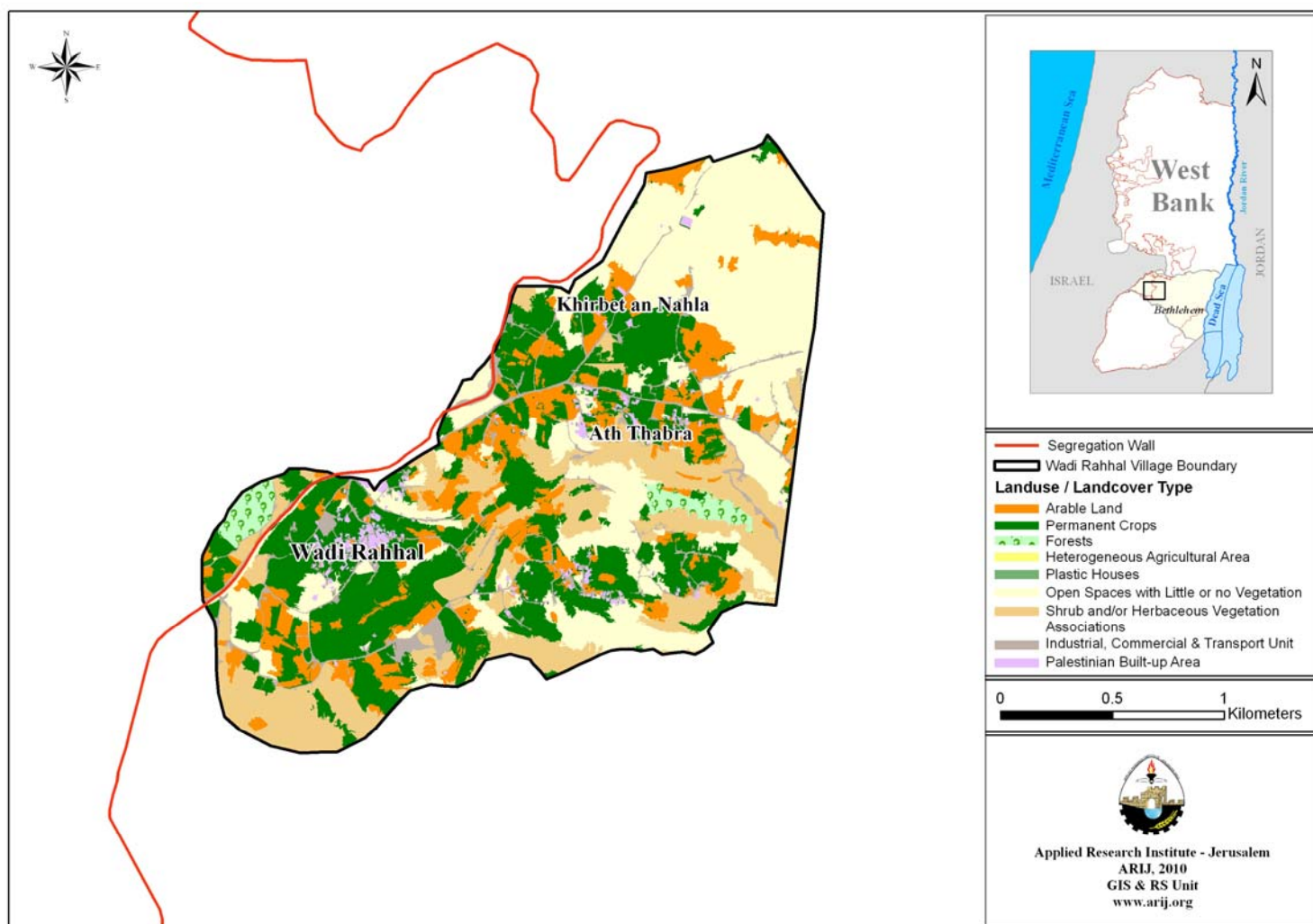
### Agricultural Sector

Wadi Rahhal lies on a total area of about 4,132 dunums of which 3,819 dunums are considered arable land, and 76 dunums are residential land (See table 4 and map 3).

Total Area	Built up Area	Arable Land (3,819)					Area of Industrial, Commercial & Transport Unit	Area of Settlements and Military Bases
		Seasonal Crops	Permanent Crops	Greenhouses	Forests	Open Spaces and Rangelands		
4,132	76	551	1,179	1	86	2,002	237	0

Source: GIS unit – ARIJ, 2009

Map 3: Land use/land cover and Segregation Wall in Wadi Rahhal Village



Agricultural production in Wadi Rahhal depends mostly on rainwater. As for irrigated fields, they depend on the public water network.

Table 5 shows the different types of rain-fed and irrigated open-cultivated vegetables in Wadi Rahhal. The most common crop cultivated within this area is tomato.

**Table 5: Total area of rain-fed and irrigated open cultivated vegetables in Wadi Rahhal village (dunum)**

Fruity vegetables		Leafy vegetable		Green legumes		Bulbs		Other vegetables		Total area	
RF	Irr.	RF	Irr.	RF	Irr.	RF	Irr.	RF	Irr.	RF	Irr.
33	17.5	0	6	0	2	0	1	0	4	33	30.5

Rf: Rain-fed, Irr: Irrigated

Source: Palestinian Ministry of Agriculture, 2007



There is also one dunum of land on which there are greenhouses planted with cucumber.

Table 6 shows the different types of fruit trees planted in the area. Wadi Rahhal village is famous for grape vines, as there are 520 dunums planted with grape trees in the village.

Olives		Citrus		Stone-fruits		Pome fruits		Nuts		Other fruits		Total area	
Rf	Irr.	Rf	Irr.	Rf	Irr.	Rf	Irr.	Rf	Irr.	Rf	Irr.	Rf	Irr.
320	0	0	0	260	0	8	0	50	0	520	0	1,158	0

*Rf: Rain-fed, Irr: Irrigated*

*Source: Palestinian Ministry of Agriculture, 2007*

As for the field crops and forage in Wadi Rahhal, cereals, in particular wheat and barley are the most cultivated covering an area of about 200 dunums, while forage crops, such as common vetch and bitter vetch are the next most cultivated crops (See table 7).

Cereals		Bulbs		Dry legumes		Oil crops		Forage crops		Stimulating crops		Other crops		Total area	
Rf	Irr	Rf	Irr	Rf	Irr	Rf	Irr	Rf	Irr	Rf	Irr	Rf	Irr	Rf	Irr
200	0	0	0	13	0	0	0	19	0	4	0	0	0	232	0

*Rf: Rain-fed, Irr: Irrigated*

*Source: Palestinian Ministry of Agriculture, 2007*

The field survey shows that 5 percent of the residents in Wadi Rahhal are rearing and keeping domestic animals such as sheep, goats, broiler chicken and bees (See Table 8).

Cows*	Sheep	Goats	Camels	Horses	Donkeys	Mules	Broilers	Layers	Bee Hives
0	628	413	0	3	13	10	16,000	0	70

\*Including cows, bull calves, heifer calves and bulls

*Source: Palestinian Ministry of Agriculture, 2007*

There are about 9 kilometers of agricultural roads in the village suitable for tractors and agricultural machinery.

## Institutions and Services

Wadi Rahhal has a number of local institutions and associations that provide services to various segments of society: children, youth and women. The services are in the areas of culture, sports and others, including: (Wadi Rahhal Village Council, 2010)

- **Wadi Rahhal Village Council:** Founded in 1996 by the Ministry of Local Government with the goal of taking care of all the issues in the village and providing various services to its population.
- **Wadi Rahhal Women Society:** Founded in 2002 aiming at providing training and guidance to all women in the village
- **Women Club:** Founded in 2000 in with the goal of taking care of all women's issues and affairs.
- **Wadi Rahhal Sport Club:** Founded in 1982 by the Ministry of Youth, with the interest of youths and sport activities in the village.

## Infrastructure and Natural Resources

### Electricity and Telecommunication Services:

Wadi Rahhal has been connected to a public electricity network since 1985; served by Jerusalem Electricity Company, which is the main source of electricity in the village. Approximately 98.8 percent of the housing units in the village are connected to the network, 1.1 percent are dependent on private generators for electricity, while the source of electricity is unknown for the remaining units (0.7%) (Central Bureau of Statistics, 2007).

Furthermore, Wadi Rahhal is connected to a telecommunication network and approximately 4.9 percent of the housing units within the village boundaries are connected to phone lines (Central Bureau of Statistics, 2007).

### Transportation Services:

Private cars are the main means of transportation in Wadi Rahhal. As for the road network in the village; there is a total of 5km of main roads; of which 3.5km are paved, and 1.5km are unpaved, and a total of 8.2km of secondary roads; of which 3.2km are paved and 5km are unpaved (Wadi Rahhal village council, 2010).

### Water Resources:

Wadi Rahhal is provided with water by West Bank Water Department, through the public water network established in 1985, and about 99.3 percent of the housing units are connected to the water network, while the source of water supply is unknown for the remaining units (0.7%) (PCBS, 2007). The quantity of water supplied to Wadi Rahhal in

2008 was about 72,807 cubic meters/year, therefore, the estimated rate of water supply per capita is about 140 liters/day (PWA, 2008).

Here it should be noted that no Wadi Rahhal citizen in fact consumes this amount of water due to water losses, which are about 20 percent. The losses happen at the main source, major transport lines, distribution network, and at the household level (Wadi Rahhal village council, 2010), thus the rate of water consumption per capita in Wadi Rahhal is 112 liters per day.

Also, located in Wadi Rahhal are 100 rainwater harvesting cisterns (Wadi Rahhal village council, 2010).

### **Sanitation:**

Wadi Rahhal lacks a public sewage network; most of the population uses cesspits as means for wastewater disposal. According to PCBS's Population and Housing Census in 2007 and PWA data, the majority of Wadi Rahhal 's housing units (98.1%) use cesspits for wastewater disposal, and 1.1 percent of Wadi Rahhal 's housing units don't have any means for wastewater collection and disposal, while the means of wastewater disposal is unknown for the remaining units (0.7%).

Based on the estimated daily per capita water consumption, the estimated amount of wastewater generated per day, is approximately 127 cubic meters, or 46,355 cubic meters annually. At the individual level in the village, it is estimated that the per capita wastewater generation is approximately 90 liters per day. The wastewater collected by cesspits, are discharged by wastewater tankers directly to open areas or nearby valleys without any regard for the environment. Here it should be noted that there is no wastewater treatment either at the source or at the disposal sites and this poses a serious threat to the environment and the public health.

### **Solid Waste Management:**

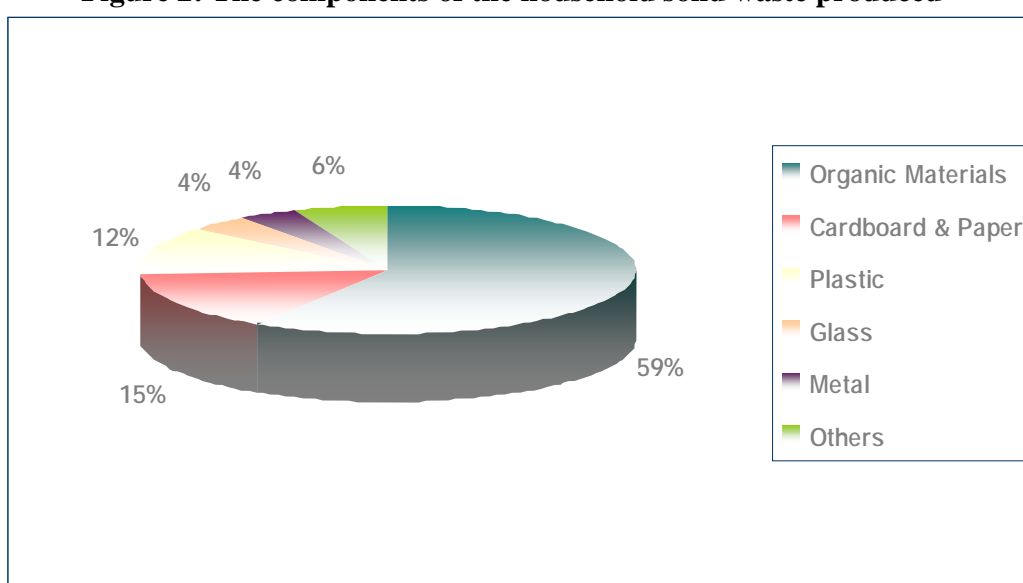
Joint Services Council for the Southern Countryside is considered the official body responsible for managing solid waste, i.e. solid waste collection and disposal, generated from the citizens and establishments in Wadi Rahhal, which is currently represented by solid waste collection and disposal. Due to the fact that the process of solid waste management is costly, a monthly fee has been charged on the population serviced by domestic solid waste collection and transportation services which is about 12.5 NIS/month. However, the collected fees are not considered sufficient for a good management of solid waste.

Most of the population in Wadi Rahhal benefits from the solid waste services, where waste is collected from households, institutions, shops, and public squares in plastic bags and then transferred to 15 containers, spread throughout the neighborhoods. The joint services council collects the solid waste from the containers two days a week and transports it to Dar Salah dumping site, 25km from Wadi Rahhal. The common method for solid waste treatment in the dumping site is setting waste on fire or sometimes

burying it. It should be mentioned here that household waste, industrial, and medical solid waste are collected together and dumped into the same landfill, with the absence of any special system for separation and/or collection. The largest volume of solid waste is household waste which makes up around 45-50 percent of total capacity of solid waste.

The daily per capita rate of solid waste production in Wadi Rahhal is 0.7kg. Thus the estimated amount of solid waste produced per day from the Wadi Rahhal residents is nearly 994kg, or 363 tons per year. The main component of household solid waste is composed of organic materials, followed by paper and cardboard, and then by plastic, as shown in Figure 2 below.

**Figure 2: The components of the household solid waste produced**



## Environmental Conditions

Like other villages in the governorate, Wadi Rahhal experiences several environmental problems which must be addressed and solved. These problems can be identified as follows:

### **Water Crisis:**

Water is cut off for long periods of time in summer in several neighborhoods of the village for several reasons, mainly:



- (1) Israeli domination over Palestinian water resources; accordingly, supplying Palestinians communities with insufficient water quantities to cover their domestic needs.

**Wastewater Management:**

The absence of a public sewage network, thus the use of cesspits for the disposal of wastewater, and the discharge of wastewater in the streets, especially in winter, because the citizens can not afford the high cost of sewage tankers, causes environmental and health problems and the spread of epidemics and diseases in the village. The use of cesspits pollutes the groundwater and water collected in domestic wells (rainwater harvesting wells) as wastewater mixes with water, making it contaminated for human consumption. This is due to the fact that most cesspits are built without lining, which allows wastewater to enter into the ground and avoids the need to use sewage tankers from time to time. Moreover, the untreated wastewater collected from cesspits by sewage tankers is disposed of in open areas without taking into account the damage it causes to the environment and the resident's health.

**Solid Waste Management:**

The lack of a central sanitary landfill to serve Wadi Rahhal and the other communities in the governorate is due mainly to the obstacles created by the Israeli authorities for local and national institutions, such as the difficulty to obtain licenses to establish such a landfill, because the appropriate land is within Area C, under the Israeli control. In addition, the implementation of such projects depends on funding from donor countries. Thus, the lack of a sanitary landfill is a hazard risk for the health and a source of pollution to the groundwater and soil through the leachate produced from the solid waste; it also produces bad odors and distorts the landscape. It should be noted here that a sanitary landfill is currently under construction in Al Maniya area, south of Bethlehem governorate, to serve Bethlehem and Hebron governorates

There is an absence of a system in the village and the governorate in general that separates hazardous waste from non-hazardous waste, consequently hazardous solid waste is collected with non-hazardous waste and transported to Dar Salah landfill for disposal by burning.

**Other problems:**

- The village council's limited role, like other councils and municipalities, of providing only certain services, without considering other various aspects for development.

## Impact of the Israeli Occupation

According to Oslo Interim Agreement, 1675 dunums of Wadi Rahhal lands (40.5% of the total area of the village) were classified as area B, while the remaining area of Wadi Rahhal lands, 2457 dunums (59.5% of the total area of the village) were classified as area C. It is worth mentioning here that most of the lands in area C are agricultural lands and open areas that are under full control of the Israeli government (Table 9).

Land Classification	Area (dunum)	% of the Total Area
Area A	0	0
Area B	1675	40.5
Area C	2457	59.5
<b>Total Area</b>	<b>4132</b>	<b>100</b>

Source: GIS unit –ARIJ 2009

Since 2000, the Israeli occupation forces have uprooted 500 olive trees, 200 grape trees, 150 stone-fruit trees, and 150 other types of trees (Wadi Rahhal Village Council, 2010).

### The Segregation Wall

According to the updated Segregation Wall plan published on the web page of the Israeli Ministry of Defense in April 2007; the Segregation Wall will extend for 1.2km on Wadi Rahhal lands; thus isolating 144 dunums of the village territory (3.5% of the total area of the village) within the western separation area, which will be annexed to Israel through the construction of the wall, including the Gush Etzion district (eleven Israeli settlements) and nine Palestinian localities (Battir, Husan, Nahhalin, Al Walaja, Al Jab'a, Khirbet 'Afana, Khirbet al Balluta, and Beit Sakariya). The construction of the wall south of Bethlehem began in 2007, where the Israeli bulldozers razed agricultural lands and uprooted fruit trees for this purpose, causing severe damages and material losses to the agricultural sector.

## Development Plans and Projects

### Implemented Projects

Wadi Rahhal village council has implemented several development projects in Wadi Rahhal, during the years 2004 to 2009, as shown in Table 10.

<b>Table 10: Implemented Development Plans and Projects in Wadi Rahhal (2004-2009)</b>			
<b>Name of the Project</b>	<b>Type</b>	<b>Year</b>	<b>Donor</b>
Pavement of Abu Njeim Road-Wadi Rahhal	Infrastructure	2004	Palestinian Economic Council for Development and Reconstruction - PEC DAR
Construction Health Units	Health	2004	United Nations Development Program-UNDP
Construction of classrooms in Wadi Rahhal School	Educational	2005	United States Agency for International Development & Cooperative Housing Foundation
Pavement of Thabra Road	Infrastructure	2007	Newlands Company
Construction of Water Network in Thabra	Infrastructure	2007	Spanish Government
Construction of a Community Center	Construction	2008	Ministry of Local Government
Construction of Wadi Rahhal Kindergarten	Educational	2008	World Vision Organization & Wadi Rahhal Village Council
Maintenance of the Water Network in the Village	Infrastructure	2009	Islamic Bank
<b>Source: Wadi Rahhal Village Council, 2010</b>			

## Proposed Projects

Wadi Rahhal village council, in cooperation with the civil society organizations in the village and the village residents, looks forward to the implementation of several projects in the coming years. The project ideas were developed during the PRA workshop that was conducted by ARIJ staff in the village. The projects are as follows, in order of priority, from the viewpoint of the participants in the workshop:

1. Construction of domestic wells and water reservoirs in addition to the maintenance of the public water network
2. Providing a health clinic
3. Providing small projects
4. Pavement of roads and providing street lighting
5. Supporting farmers and the reclamation of lands
6. Supporting the education sector through providing transportation buses for the students, providing strengthening courses for them, and establishing playgrounds in schools.
7. Providing public transportation
8. Providing job opportunities for the youth in addition to awareness and educational courses for the youth and for farmers as well.
9. Establishment of a sewage network.
10. Establishment of a public park.
11. Establishment of a local central market.

## Locality Development Priorities and Needs

Wadi Rahhal suffers from a significant shortage of infrastructure and services. Table 11 shows the development priorities and needs in the village, according to the village council's point of view (Wadi Rahhal Village Council, 2010):

No.	Sector	Strongly Needed	Needed	Not a Priority	Notes
<b>Infrastructural Needs</b>					
1	Opening and Pavement of Roads	*			7km*
2	Rehabilitation of Old Water Networks		*		
3	Extending the Water Network to Cover New Built up Areas			*	
4	Construction of New Water Networks			*	
5	Rehabilitation/ Construction of New Wells or Springs			*	
6	Construction of Water Reservoirs		*		
7	Construction of a Sewage Disposal Network			*	
8	Construction of a New Electricity Network			*	
9	Providing Containers for Solid Waste Collection	*			10 containers
10	Providing Vehicles for Collecting Solid Waste			*	
11	Providing a Sanitary Landfill			*	
<b>Health Needs</b>					
1	Building of New Clinics or Health Care Centres	*			2 clinics
2	Rehabilitation of Old Clinics or Health Care Centres			*	
3	Purchasing of Medical Equipment and Tools			*	
<b>Educational Needs</b>					
1	Building of New Schools		*		elementary
2	Rehabilitation of Old Schools	*			elementary & secondary
3	Purchasing of New Equipment for Schools		*		
<b>Agriculture Needs</b>					
1	Rehabilitation of Agricultural Lands		*		700 dunums
2	Building Rainwater Harvesting Cisterns	*			70 cistern
3	Construction of Barracks for Livestock		*		15 barracks
4	Veterinary Services	*			
5	Seeds and Hay for Animals	*			
6	Construction of New Greenhouses		*		7 greenhouses
7	Rehabilitation of Greenhouses		*		3 greenhouses
8	Field Crops Seeds	*			
9	Plants and Agricultural Supplies	*			

\*1km is a main road, 4km internal road and 2km agricultural road.



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