# ANNEX 4: CURRENT SITUATION OF TOURISM

## 1. Tourism Resources

Since pre-historic times, the Jordan Rift Valley area has been a passageway for many civilizations and a cross-road for the tracks of history. The many different civilizations that lived in the area contributed towards the unique culture of the Jordan Rift Valley area. Abundant historical and cultural remains were left behind during the passage of the many different civilizations and the exchange of human activities. These remains are now recognized as valuable cultural and historical assets and are regional tourist attractions. The major assets in the Greater Jericho are introduced below.

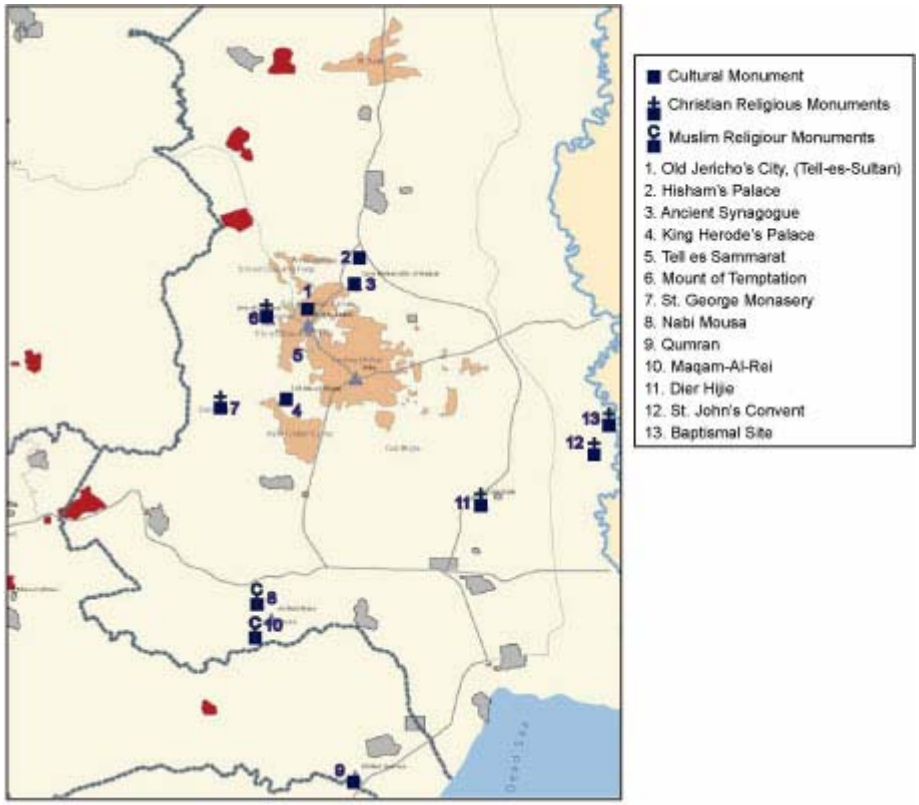



**Figure 4.1.1 Location of Historical Sites**

(1) Tell es-Sultan / Old Jericho City Built 10,000 Years Ago

In the 19th century, part of Jericho City wall was discovered by a British archaeologist team and was found to be part of the oldest city in the world, built approximately 8000 BC. The mild climate and water resources in the valley attracted people, and settlements grew to form a city. The Jordan Rift Valley and Dead Sea area is also known to have been the place where agricultural activities first started using the fertile

agricultural land. Then the people of Jericho built the city walls to protect themselves from invasions and attacks. The remains of the city wall and ruins show that Jericho City received frequent attacks. Currently, Jericho is known as the oldest city existing in the world.

(i) Current Status

The site is located 2 km north-west of the center of Jericho City. There is a parking area for visitors, souvenir shops and restaurants of different sizes are prepared and welcome visitors.

The heritage site is mostly covered by earth, except for some points where spot excavations were carried out to verify the layers of other remains that were built by different civilizations who occupied old Jericho and rebuilt their own cities over the destroyed city. There are visitor routes and information boards; however it is quite difficult to imagine the old Jericho Town. So tourists visit the site for only a short time.

(ii) Assessment

The accessibility of Tell es-Sultan is excellent. However, the site is only of limited interest to visitors because the ruins are mostly covered by earth and visitors can only observe a limited part of the ancient city wall. It would be necessary to further excavate the old town in order to upgrade its presentation. A visitor center, to provide preliminary information on the old city to visitors, has not yet been built on the site. In addition, reconstruction of the fence around the site is required in order to prevent antiquity thieves and vandalism of the site. The site faces a road with heavy traffic to the south and diversion of this road is required in order to prevent damage to the site from the vibrations and gases the vehicles exhaust.

(iii) Development Potential

Tell es-Sultan has a very high potential for development as a historical attraction in Jericho City, because of its uniqueness as the oldest city in the world. If the site is properly excavated and interpreted to visitors, the uniqueness of Old Jericho will be one of the most valuable cultural assets in the world.

(2) Hisham's Palace

It is said that the palace was built by a Caliph of Umayyad Hisham Ibn Abdal-Malik between 724 and 743 AD. The palace is one of palaces in the deserts of Syria, Jordan and the West Bank and Gaza which was built for reinvigoration by hunting trips and for hearing the people in his territory, such as from Qasr Amra and Qasr Mushatta in the desert of Jordan.

At present, conservation and restoration of the site are executed under the cooperation of UNESCO and the La Sapianza University of Italy. In October 2005, USAID agreed to provide funding of US$ 1.3 million for rehabilitation of the ruins including restoration of mosaics and the establishment of a training facility for mosaics in cooperation with the mosaic museum in Madaba, Jordan.

The palace is a very popular destination for Palestinian domestic tourists. The presentation of the ruins is more tangible and visitors are able to understand and envisage the palace and the lives of the people in the Umayyad period. The history of the Umayyad Dynasty is more familiar than that of the old city for Palestinian students.

(i) Current Status

Conservation of this archaeological site is being carried out with the cooperation of UNESCO and the Italian government. A small museum has also been built by UNDP on the site.

(ii) Assessment

Restoration of the main part of the site has been carried out and the ruins are attractively presented to tourists. However, the site is presented for academic interest and not for tourism, and consequently further improvements are required, such as:

- Improvement of the access road to the site and the car-parking area,
- Development of amenities for visitors, such as rest spaces, a café, sun shade and a sufficient number of clean toilets,
- A visitor center to provide preliminary information on the site for visitors and to introduce the ruins and the life of the people in the palace, particularly for students,
- To build a museum and a museum shop to generate a souvenir industry in the local community and revenue for the restoration of the site.

(iii) Development Potential

Conservation and restoration of the site is being conducted by UNESCO and donors and the upgrading of the presentation of the site will be programmed under the MoTA's conservation plan. When the conservation work is completed, the site will be a more attractive tourist destination, especially for Palestinian domestic visitors including students, as well as for foreigners.

(3) Ancient Synagogue

Built in the 5th to 6th century, the ancient synagogue is of historic architecture and is one of the oldest synagogues in the region. However, the historic building of the synagogue burnt down and, at present, only the mosaic floor remains. This is one of the most valuable cultural assets for Judaism. The mosaic floor is in poor condition and only a few foreign tourists visit the synagogue. However, it is regarded as a valuable and rare cultural asset by historians.

(i) Current Status

The ancient synagogue is one of the most valuable monuments of Judaism and received many Jewish visitors before the Second Intifada. After it was burnt down, the building was re-constructed in order to protect the mosaic floor. However, the mosaic floor has not had any restoration and it is now quite difficult to distinguish the pictures showing the religious history.

(ii) Assessment

It is one of the few ancient synagogues in the region. Since the building was destroyed during an attack by the Second Intifada, the upstairs of the building has been constructed in order to protect the mosaic floor. However, because of the limited number of visitors, the maintenance and polishing of the mosaic has not been undertaken and it is now quite difficult to understand the picture. Cleaning of the mosaic floor is essential in order to upgrade this exhibition.

At present, the access road is a dirt farm road and accessibility by car and tourist bus is quite difficult. The absence of signs to guide visitors to the synagogue, parking spaces and facilities to accommodate tourists, such as restrooms with toilets, are required in order to establish the synagogue as one of the most important religious tourist destinations in Jericho City.

(iii) Development Potential

This is not a destination for large group tours but is suitable for (SIT) tourists who are interested in mosaics, history and Judaism. The site should be developed as a religious, cultural and historical tourist destination. Israeli people will be an important tourist market when regional peace is established in the future.

(4) King Herode's Winter Palace

The Palace was built by the King Herode, appointed as the King of Judea by the Roman Empire in 40 BC. It is said to have been a place where the King could come to avoid the cold winter in Jerusalem and enjoy the mild climate in Jericho, and as such as it is called "King Herode's Winter Palace". It was discovered in the 1970s by an Israeli archaeologist team. The excavation has proven that Jericho was part of the kingdom colonized by the Roman Empire. According to analysis of the remains, the palace was constructed by a unique structural method whereby the diagonally laid brick cavity walls were filled with concrete.

Hellenistic Twin Palaces were built next to the Palace; one was built by Johannes Hycanus in 134-104 BC and the other by Alexander Janaeus in 103-67 BC. The swimming pools, cisterns and grain storage areas are well preserved, although little conservation has been carried out. These are historically unique monuments, and appropriate conservation should be instigated immediately in order to prevent destruction of these important cultural assets.

(i) Current Status

The site has been abandoned since the last archaeological survey. Half of the site was surveyed by the Israeli archaeologist team however this was terminated in 1998. The remaining half is being used as a banana plantation by the Bedouin people. The destruction of monuments is already in progress and urgent conservation works are required.

(ii) Assessment

The site is famous and valuable. However, it is difficult to carry out sufficient research and conservation of the site because it is located in Area C. The site is not yet prepared for tourists and there is no facility such as a visitor center, rest facilities with sun shades and toilets.

(iii) Development Potential

If the development of King Herode's Palace and Tell es-Samalat, which is an ancient horse racing field and club house built as part of King Herode's Palace, is undertaken together and connected with Tell es-Sultan, it would become an attractive tourist destination as an archaeological complex and would emphasize the attractions of the tourism of the Greater Jericho.

(5) Mount of Temptation

Mount Temptation is famous among Christians and one of the most important attractions for pilgrimage tourism in the Greater Jericho. According to a short tourist survey conducted by the JICA Study Team, more than 60% of tourist groups were pilgrimage tourists who visit Mount of Temptation to recall the ascetic nature of Jesus Christ and to pray on the sites. Mount Temptation is an important destination for international pilgrimage tourists.

(i) Current Status

Mount Temptation is located beside Tell es-Sultan, 2 km to the north west of the center of Jericho City. The access road to Tell es-Sultan is well constructed and accessibility is excellent. Tourists are able to ascend to the monastery built on the mountain by a cable car. Before construction of the cable car, the pilgrimage to the monastery was a tiring journey, however the approach to the monastery has improved with the development of the cable car.

The monastery is built on a ledged cell. A narrow corridor separates the cells from the face of cliff. At the end of the row is a small church with steps leading to the place of temptation. The rock on which Jesus is believed to have sat is visited by many pilgrims.

Most visitors come to Mount of Temptation on tour buses and are guided by tour conductors. However, the signage in the city is insufficient to direct individual tourists to Mount of Temptation. In addition, the unclear entrance of the walkway leading to the monastery and the irregular operation of the cable car limits the time that tourists stay in Jericho. The companies that manage the cable car and the souvenir shops need to work together to upgrade the facilities at the tourist site.

(ii) Assessment

As it is written in the Bible, it is an important pilgrimage place for Christians. The monastery receives pilgrims for preying. It will continue to attract pilgrims as it is an important pilgrimage destination in the Greater Jericho.

The accessibility of the monastery is well developed. There is a modern cable car from Tell es-Ain and a good walking access way is provided up to the middle of Mount of Temptation. Visitors are able to access the monastery from the cable car station via a short walk. The small café and rest house provide a good lookout over Jericho City and Jordan Rift Valley.

(iii) Development Potential

No further development is considered to be necessary at present due to the number of visitors. However, when the number of visitors increases in the future, the waiting area for the cable car station will need to be expanded. The efficient and regular operation of the cable car and improvement of the walkway to the monastery will be required to enable tourists to choose their own method of access to the monastery.

(6) St. George Church of Koziba Monastery in the Wadi Qilt,

The St. George Church of Koziba Monastery is a Christian monastery built at the bottom of a deep valley in the Wadi Qilt as a place for the monks of Syrian Laura to study in the 5th century. It was later transformed into a Greek Orthodox monastery. In the 15th century, an access road for pilgrims was developed and the monastery became one of the important pilgrimage destinations in the Greater Jericho.

(i) Current Status

With the construction of the new road along Route 1, accessibility to the monastery has been improved and it has become a popular pilgrimage destination. In 2005, the Palestinian Wild Life Society (PWLS) designated the area as an eco-tourism area and is now trying to find a financial source to develop trails and facilities.

(ii) Assessment

The monastery has been carved out of the cliff face in the deep valley of Wadi Qilt and its construction is unique. The construction is similar to Petra, which is one of the famous cities carved out of rock in Jordan. The difficult access has protected this site for a long time. However, the construction of the road has facilitated the access to the monastery for pilgrims, cultural tourists and eco-tourists.

(iii) Development Potential

The uniqueness of the site and the geologic wonder of the deep gorge of Wadi Qilt mean there is high potential for development of the site as a pilgrimage destination as well as for eco-tourism (e.g. trekking and bird watching) and cultural tourism.

(7) Nabi Musa

The Nabi Musa Mosque was built by the Malmuk Dynasty as a pilgrimage destination for Muslims traveling to Mecca in the 13th century. It is located on the crossing point of the ancient pilgrimage trail from Damascus to Mecca through Jericho, and the road from Jerusalem to Karak in Jordan. This route was also the main passage way for crusaders and the Salah'adin. The mosque was restored by Turks in 1820 and Nabi Musa became a spiritual center for Muslim pilgrims in the Greater Jericho, although it is at present isolated in the desert mountains to the west side of the Jordan Rift Valley. The access road to the heritage site is in a poor condition. The improvement and paving of the access road is important to allow access for pilgrims and visitors.


(i) Current Status

It is said that Nabi Musa is a mosque where the Prophet Musa (Moses) was buried and many Moslem pilgrims visit the Mosque. It received 50,000 pilgrims in 1987, and it was prepared as an official pilgrimage station for Moslems in 1995.

(ii) Assessment

This site is still used for religious purposes and is not set up as a destination for holiday tourists.

(iii) Development Potential

The mosque is an important religious place for Moslem pilgrims and is not a place to be developed for holiday tourists. It should be respected and the development of a visitor's area at Nabi Musa should be undertaken in cooperation with the religious leader.

(8) Qumran

Qumran is located in Area C and is one of the important tourist destinations. It is well known as the place where the Dead Sea Scroll was discovered. The site is properly developed to receive tourists, not only Israeli but international tourists. The visitor center has been properly established and a short interpretation film in Hebrew, Arabic, English, French, German, Spanish and Italian is shown to visitors. The site requires the installation of appropriate signage and guard fences for the safety of the visiting tourists.

The presentation and visitor center at Qumran is regarded as one of the good examples of cultural tourism.

(i) Current Status

The archaeological site of Qumran is currently operated as a tourist destination of Israel and attracts a number of tourists, mainly from Israel. The well established visitor center presents a film for introduction of the site. A restaurant, toilet, souvenir shop and gallery of local artists are properly developed in the site.

(ii) Assessment

The facilities and organization to receive tourists are excellent. Visitors are able to get some understanding and images of the site prior to stepping onto the archaeological site. This is one of the modes for development of the archaeological sites in Jericho.

(iii) Development Potential

Development of the site has been appropriately undertaken by the Ministry of Tourism in Israel and the development concept will be applicable to many archaeological sites in the West Bank and Gaza. It has succeeded in inviting tourists with the cooperation of the land operators. The religious history of Qumran is familiar and important for Israeli tourists and Qumran will be an important religious and sight-seeing destination in the region even if it is returned to the West Bank and Gaza in future.

(9) Religious Routes in the Holy Land

The religious routes of Christianity and Muslims are part of the unique historical heritage that exists only in the Holy Land covering the West Bank and Gaza, Israel, Jordan, the south of Lebanon and Egypt. Jericho is located on the important route that Jesus Christ took on the way to the Jordan River for Baptism.

*Christian Routes*

- The route that the Virgin Mary took from Nazareth to Karem after the Angel Gabriel announced Mary was carrying Jesus Christ started in the Church of Annunciation in Nazareth and continued to Bethlehem where Mary gave birth to Jesus in the Nativity Grotto.
- The shepherd's route from Beit Sahour to Bethlehem.
- The Holy Family Route:
  The route of the holy family's journey from Bethlehem to Egypt and back to Nazareth.
- Jesus walked in the Jerusalem wilderness where he spent most of the fasting period and

was tempted by Satan.

- Then Jesus journeyed to the Lake of Tiberius and performed many miracles in the ten towns that he visited on the journey.
- Jesus' route on Palm Sunday: from Jericho and Bethany to Jerusalem.
- Jesus' trail in Jerusalem: Via Dolorosa, or the route of Passion.

*Muslim Routes*

- The site of Prophet Muhammad's night journey in Al Asa where he headed a prayer with all of the prophets, and five of them were declared.
- The Al Hajj Routes are the following two, (1) 40 km of mountainous roads from Jerusalem, passing through Bethlehem, and (2) the part of the pilgrimage route from Jerusalem to Mecca.

(i) Current Status

At present, the routes are being studied by the Ministry of Culture (MoC) in accordance with the historic verification process.

(ii) Assessment

The religious routes could also become an effective tourist attraction for trekking and exploration of the historical routes. This would be a good tourist activity to enable tourists to learn and experience the history of religion and Christianity, Judaism and Islam.

(iii) Development Potential

The religious routes would be popular for both foreign pilgrims and holiday tourists. This tourist attraction could be marketed to Christians worldwide. Tourist facilities such as sun shades, toilets, rest houses and accommodation would be necessary in order to trace the ancient religious trails.

(10) Deir Hijle


Deir Hijle is a Greek Orthodox Monastery of St Gerasimus and is one of the largest monasteries in not only the West Bank and Gaza but the entire world. It was founded by Gerasimus in 445. The monastery contains an old church, a medieval mosaic floor and remnants of monks and hermits. Domestic picnickers can spend a day in and around the monastery. Ain Hajle is a spring whose water is believed to

be Canaanite Village of Beit.

(i) Current Status

There are few visitors to the Deir Hijle monastery except for a limited number of pilgrims. The monastery is not a major tourist destination in the Jericho region.

(ii) Assessment

The monastery is already a popular weekend picnic site for domestic tourists.

(iii) Development Potential

It has the potential to be developed as a domestic tourist destination. It is recommended that community facilities are provided such as toilets, a water well, parking spaces and rest areas for the weekend visits of the neighborhood residents.

Together with the natural attractions, the historical and cultural assets in the Greater Jericho have been evaluated by the Tourism Working Group as summarized in the following table.

**Table 4.1.1 Assessment of Tourism Resources in the Greater Jericho**

| No. | | Category | Accessi-bility | Presenta-tion | Attractiv-eness | Facility | Potential | Global |
|---|---|---|---|---|---|---|---|---|
| 1 | Tell es－Sultan | Old Jericho | A | E | C | B | A | C |
| 2 | Hisham's Palace | Cultural | A | B | B | B | A | B |
| 3 | Ancient Synagogue | Religious | B | D | D | C | B | C |
| 4 | King Herode's Palace | Cultural | C | C | B | E | A | B |
| 5 | Tell es-Sammarat | Cultural | C | E | B | E | C | C |
| 6 | Mt. Temptation | Religious | A | B | B | A | B | B |
| 7 | St. George Monastery | Religious | D | B | A | B | B | B |
| 8 | Nabi Mousa | Religious | B | C | B | D | B | B |
| 9 | Qumran | Cultural | A | B | B | A | B | B |
| 10 | Maqam Al-Re'j | Religious | C | B | C | B | C | C |
| 11 | Dier Hijle | Religious | A | A | B | B | C | B |
| 12 | St Johns Convent | Religious | B | A | B | C | C | B |
| 13 | Baptismal Site | Religious | B | B | C | B | B | B |
| 14 | Religious Trail | Religious | C | C | B | D | B | C |
| 15 | Dead Sea | Natural | B | A | B | D | A | B |
| 16 | Rift Valley Landscape | Natural | B | A | A | E | C | B |
| 17 | Geological Wonder | Natural | B | A | A | E | B | B |
| 18 | Mild Climate | Natural | - | - | A | B | A | A |

Source: MoTA, JICA Study Team (Tourism Working Group)
A: Excellent, B: good, C: Medium, D: Low, E: Poor

## 2. Jericho Tourism Opportunities

(1) Pilgrimages

At present, pilgrimage journeys are the main tourist activity of international tourists in the Greater Jericho. There are pilgrimage destinations for three religions: Saint George Monastery, Tell es-Sultan, Mount of Temptation, Ein es-Sultan, Dier Hijle, St. John Convent and the Baptismal Site for Christians; Nabi Mousa and Maqam Al-n for Muslims; Shahawan House (Ancient Synagogue) for Judaists. According to

a short tourist survey carried out by the JICA Study Team, more than 60% of visitors come to Jericho for pilgrimage purposes. The proximity to Jerusalem, the world famous international pilgrimage destination, provides an advantageous setting for Jericho to develop pilgrimage tourism products in cooperation with Jerusalem and invite pilgrims to lengthen their pilgrimage tours from Jerusalem to Jericho. At present, the MoTA is developing a religious trail to attract pilgrims that follows the journey of Jesus Christ through Jericho.

(2) Cultural Tourism

The cultural tourism products around the Greater Jericho are unique in the world, for example, the remains of the ancient city which is said to be the oldest city in the world. Tell es-Sultan is considered to be the most important cultural site in the Greater Jericho; even the exhibition of the cultural site is limited to academic research and is inadequate for tourists. Other resources for development include; Life in King Herode's Winter Palace, historic stories of Jericho as the place of a rendezvous between "Cleopatra and Antonius", the story of the "Battle of Jericho" led by Joshua as mentioned in the bible, paintings and religious songs. These cultural tourism products have not yet been sufficiently exploited.

(3) Resort Tourism

Since ancient times, the mild climate, especially in the winter months has attracted many visitors. King Herode loved the winter climate in Jericho and built a palace for the winter months which is called the "Tulul Abu Al-Alayiq" or "Herode's Winter Palace". Nowadays, the climate in the Greater Jericho invites many domestic tourists from all regions of the West Bank and Gaza such as Jerusalem, Ramallah, Bethlehem and Nablus where they experience cold winters in the highlands. However, insufficient resort elements such as shopping opportunities, urban amenities, a tourist quarter and tourist information prevent the development of a winter resort in the area. The mild climate, quiet natural environment and cultural opportunities are the potential resources for the development of MICE tourism products in the Greater Jericho.

(4) Nature Tourism

Nature tourism is a potential tourism opportunity in the Jordan Rift Valley region. Natural wonders, such as the Dead Sea, the green valleys in the wadi's, forests and sandy rift valleys in the region are resources that can be used for tourism. The promotion of eco-tourism is proposed by the Ministry of Planning (MoP) and the PWLS using these natural resources. The MoP has designated land use zonings for the natural conservation areas and proposes to promote eco-tourism using these natural assets. Nature tourism using the protected areas in the green valleys is recommended to promote these areas for family picnics which are a traditional outdoor activity for the Palestinian people. The eco-tourism program will protect the natural environment and wildlife in the protected areas. At present, the PWLS is developing a Natural Park on the perimeter of Jericho City to encourage the environmental education of the regional people, especially for school children. The PWLS has succeeded in introducing

environmental education classes into the curriculum of the local primary schools. In addition, the PWLS has designated four eco-tourism areas; Wadi al Qilt, Wadi al F'ara, 'Auja Spring and the Sasaila area.

(5) Agro-Tourism

Agro-tourism has not been undertaken in the Jordan Rift Valley area. However, there is the potential to develop agro-tourism because the Jordan Rift Valley is a famous agricultural area for vegetables and fruit. The participation of this industry in tourism will increase regional revenues and it will contribute towards the development of tourism-related local businesses and employment opportunities, such as retailers of agricultural products, souvenir shops, restaurants and cafés, transport and services. Agro-tourism is also important from an educational aspect, to enable people to learn how crops are produced. It is also enjoyable to dine on local family foods and to taste the fresh fruit of the region. The exchange of farmers and tourists visiting from urban areas is one of the expected effects of agro-tourism.

## 3. Tourism Demand

(1) Visitors to Jericho

Tourist arrivals in Jericho were 230,000 to 250,000 per annum in 1998/2000. However, this level decreased dramatically after the Second Intifada broke out in 2000. Following the Second Intifada, the number of visitors to Jericho has gradually recovered and over 107,000 in 2005. Attack to the prison in Jericho by Israel Army in the march has crushed the increase of visitors to Jericho again, although March is usually the most crowded tourist season.

**Table 4.3.1 Tourists to Jericho**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 231,091 | 290,385 | 231,613 | 1,254 | 6,227 | 12,256 | 31,982 | 107,094 | 43,632 |
| Palestinian | 36,366 | 23,703 | 11,829 | 154 | 5,237 | 9,436 | 23,339 | 73,217 | 18,344 |
| Foreigner | 194,725 | 266,682 | 219,784 | 1,100 | 990 | 2,820 | 8,643 | 33,877 | 25,288 |

Source: MoTA Jericho Branch, *2006: Jan - May

One of the characteristics of visitor arrivals in Jericho is a seasonal fluctuation. The monthly arrivals in Jericho is shown in the Table 4.3.2

**Table 4.3.2 Tourists to Jericho by Month**

| | Jan. | Feb. | Mar | Apr. | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1988 | 15,754 | 19,954 | 33,484 | 29,344 | 20,151 | 13,222 | 10,290 | 12,191 | 14,538 | 26,149 | 24,912 | 10,697 | 230,686 |
| 1999 | 13,944 | 21,138 | 28,483 | 29,746 | 21,873 | 13,903 | 13,140 | 13,877 | 15,157 | 34,145 | 32,151 | 12,177 | 249,752 |
| 2000 | 14,749 | 31,376 | 38,866 | 37,011 | 28,419 | 23,589 | 14,442 | 16,692 | 25,436 | 93 | 5 | 31 | 230,754 |
| 2001 | 269 | 97 | 43 | 66 | 34 | 8 | 22 | 10 | 30 | 225 | 506 | 75 | 1,385 |
| 2002 | 308 | 4,898 | 58 | 14 | 49 | 45 | 62 | 64 | 49 | 89 | 176 | 406 | 6,227 |
| 2003 | 153 | 431 | 1,160 | 5,163 | 2,487 | 607 | 436 | 446 | 246 | 280 | 296 | 563 | 12,268 |
| 2004 | 811 | 3,655 | 18,025 | 1,635 | 779 | 492 | 713 | 873 | 574 | 1,464 | 932 | 2030 | 31,988 |
| 2005 | 2,283 | 3,321 | 45,951 | 27,330 | 3,510 | 2,684 | 2,946 | 3,063 | 3,136 | 3,836 | 6,140 | 4,124 | 108,288 |
| 2006 | 3,601 | 5,266 | 17,223 | 10,958 | 6,584 | - | - | - | - | - | - | - | 43,632 |

Source: MoTA Jericho Branch, *2006: Jan - May

The peak season in Jericho is March, April, October and November because of harsh summer climate in the Jordan River Rift Valley and school holidays system in Palestine.

**Table 4.3.3 Tourist Arrivals in Jericho**

| | Jan / May | | Jun / Dec | | Annual |
|---|---|---|---|---|---|
| | No. | % | No. | % | |
| 1998 | 118,687 | 51.4 | 112,181 | 48.6 | 230,898 |
| 1999 | 115,202 | 46.1 | 134,550 | 53.9 | 249,752 |
| 2000 | 150,466 | 65.2 | 80,288, | 34.8 | 230,754 |
| 2001 | 509 | 36.8 | 876 | 63.2 | 1,385 |
| 2002 | 5,327 | 85.5 | 900 | 14.5 | 6,227 |
| 2003 | 9,394 | 76.6 | 2,874 | 23.4 | 12,268 |
| 2004 | 24,905 | 77.9 | 7,083 | 22.1 | 31,988 |
| 2005 | 82,395 | 76.1 | 15,893 | 23.9 | 108,288 |
| 2006 | 43,632 | - | - | - | - |

Source: MoTA and the JICA Study Team

The Table 4.3.3 shows tourist arrivals in Jericho during January to May, and June to December. Tourist arrivals during January to May in 2006 decreased and became mostly a half of the same period in the previous year. Normally, more than 75% of tourists visit Jericho in the first five months, especially March and April, because of the school holidays. However tourist arrivals during January to May is fallen in 2006, nearly a half of 2005, although the period January and February are high tourist season and crowded in Jericho. However the political situation in Palestine and attack of Israeli Force to the prison in Jericho are considered to be a reason which has stopped visit of tourists in Jericho in March and April.

(2) Visitors to Historical Heritage Sites

Jericho has the tourist attractions of Tell es-Sultan, Hisham's Umayyad Palace and the Ancient Synagogue as introduced previously. Tell es-Sultan, which is the ancient city of Jericho, is the top priority for tourism development. The number and nationalities of the visitors to Tell es-Sultan are summarized in the following tables. The major group of visitors to Tell es-Sultan is foreign tourists. The name "Jericho" and bible story of "The Battle of Jericho" are well known by foreign tourists.

**Table 4.3.4 Visitors to Tell es-Sultan**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 177,546 | 232,822 | 190,037 | 930 | 708 | 2,091 | 6,953 | 29,399 | 22,949 |
| Palestinians | 5,458 | 3,256 | 2,632 | 12 | 11 | 356 | 174 | 458 | 129 |
| Foreigners | 172,088 | 229,566 | 187,405 | 918 | 697 | 1,735 | 6,779 | 28,941 | 22820 |

Source: MoTA Jericho Branch (Number of entrance tickets) *Number in 2006 : Jan - May

**Table 4.3.5 Nationalities of Visitors to Tell es-Sultan**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Palestinian | 5,458 | 3,256 | 2,632 | 12 | 11 | 356 | 174 | 458 | 129 |
| American | 62,129 | 68,640 | 48,800 | 444 | 182 | 340 | 1,773 | 6,917 | 8,099 |
| German | 25,811 | 35,273 | 29,114 | 65 | 47 | 92 | 571 | 2,650 | 2,887 |
| French | 9,376 | 13,663 | 11,567 | 75 | 112 | 260 | 867 | 1,815 | 972 |
| Italian | 13,987 | 25,965 | 20,484 | 73 | 30 | 193 | 715 | 3,411 | 1,294 |
| Spanish | 13,805 | 18,828 | 23,737 | 7 | 40 | 132 | 682 | 5,081 | 2,619 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| English | 10,329 | 10,961 | 7,772 | 35 | 49 | 105 | 145 | 829 | 901 |
| Dutch | 4,659 | 6,273 | 2,746 | 4 | 18 | 22 | 18 | 73 | 87 |
| Japanese | 3,229 | 4,656 | 4,967 | 15 | 35 | 55 | 146 | 169 | 88 |
| Others | 28,763 | 45,307 | 38,218 | 200 | 184 | 536 | 1,862 | 7,699 | 5,873 |
| Total | 177,546 | 232,822 | 190,037 | 930 | 708 | 2,091 | 6,953 | 29,399 | 22,949 |

Source: MoTA Jericho Branch, *Number in 2006 : Jan -May

Hisham's Umayyad Palace is the most attractive destination for domestic tourists, especially for school excursions. Visitors to the Hisham's Palace are summarized in the following tables. In 2005, the number of domestic visitors has already recovered to the same level as before the Intifada.

**Table 4.3.6 Visitors to Hisham's Umayyad Palace**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 50,036 | 52,176 | 36,738 | 316 | 5,513 | 10,046 | 24,942 | 77,238 | 20,502 |
| Palestinians | 30,908 | 20,447 | 9,197 | 142 | 5,226 | 9,080 | 23,159 | 72,746 | 2,287 |
| Foreigners | 19,128 | 31,729 | 27,541 | 174 | 287 | 966 | 1,783 | 4,492 | 20,502 |

Source: MoTA Jericho Branch, *Number in 2006 : Jan -May

**Table 4.3.7 Nationalities of Tourists visiting Hisham's Umayyad Palace**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Palestinian | 30,908 | 20,447 | 9,197 | 142 | 5,226 | 9,080 | 23,159 | 72,746 | 18,214 |
| American | 2,403 | 4,413 | 2,076 | 5 | 18 | 75 | 257 | 655 | 342 |
| German | 6,586 | 6,757 | 5,047 | 22 | 17 | 104 | 252 | 666 | 564 |
| French | 2,850 | 3,421 | 6,017 | 64 | 68 | 139 | 284 | 672 | 225 |
| Italian | 1,344 | 2,848 | 3,224 | 14 | 31 | 109 | 265 | 923 | 353 |
| Spanish | 480 | 627 | 750 | 7 | 15 | 45 | 111 | 207 | 126 |
| English | 737 | 1,150 | 823 | 6 | 16 | 62 | 104 | 191 | 53 |
| Dutch | 614 | 731 | 700 | 0 | 1 | 20 | 32 | 87 | 68 |
| Japanese | 116 | 329 | 199 | 8 | 5 | 37 | 37 | 99 | 20 |
| Others | 3,998 | 11,453 | 8,705 | 48 | 116 | 375 | 441 | 983 | 532 |
| Total | 50,036 | 52,176 | 36,738 | 316 | 5,513 | 10,046 | 24,942 | 77,238 | 20,501 |

Source: MoTA Jericho Branch, *Number in 2006 : Jan -May

The Ancient Synagogue attracts Jewish tourists and was a popular tourist destination before the Second Intifada. However, the ancient building was burnt down during the Intifada and the statistics on the number of visitors have been lost during the fire. Since the fire, only the mosaic floor remains and its religious value is still appreciated. The number of Palestinian visitors is small enough to disregard. Most of the visitors are at present foreigners.

**Table 4.3.8 Visitors to the Ancient Synagogue**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Total | 3,509 | 5,387 | 4,837 | 8 | 6 | 119 | 87 | 457 | 182 |
| Palestinians | - | - | - | - | - | 0 | 6 | 13 | 1 |
| Foreigners | - | - | - | - | - | 119 | 81 | 444 | 181 |

Source: MoTA Jericho Branch, *Number in 2006 is Jan –May

**Table 4.3.9 Nationalities of Tourists Visiting the Ancient Synagogue**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | *2006 |
|---|---|---|---|---|---|---|---|---|---|
| Palestinian | n.a. | n.a. | n.a. | n.a. | n.a. | 0 | 6 | 13 | 1 |
| American | n.a. | n.a. | n.a. | n.a. | n.a. | 8 | 15 | 68 | 29 |
| German | n.a. | n.a. | n.a. | n.a. | n.a. | 33 | 31 | 107 | 40 |
| French | n.a. | n.a. | n.a. | n.a. | 3 | 12 | 0 | 61 | 11 |
| Italian | n.a. | n.a. | n.a. | n.a. | n.a. | 27 | 14 | 66 | 38 |
| Spanish | n.a. | n.a. | n.a. | n.a. | n.a. | 7 | 0 | 14 | 0 |
| English | n.a. | n.a. | n.a. | n.a. | 3 | 9 | 4 | 20 | 9 |
| Dutch | n.a. | n.a. | n.a. | n.a. | n.a. | 2 | 0 | 3 | 1 |
| Japanese | n.a. | n.a. | n.a. | n.a. | n.a. | 1 | 7 | 22 | 4 |
| Others | n.a. | n.a. | n.a. | 8 | n.a. | 20 | 10 | 81 | 49 |
| Total | 3,509 | 5,387 | 4,837 | 8 | 6 | 119 | 87 | 457 | 182 |

Source: MoTA Jericho Branch, *Number in 2006: Jan - May

(3) Overnight tourists in Jericho

According to the statistics of accommodation, there are 369 rooms in six facilities in Jericho, however, only limited hotels have sufficient service standard to receive international guests such as Jericho Resort Village Hotel, Inter-continental Hotel and Jerusalem Hotel. Number of overnight tourists by month in the above three hotels are shown in the following table.

**Table 4.3.10 Overnight Tourists in Major Hotels in Jericho**

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1998 | 53 | 42 | 55 | 35 | 67 | 65 | 51 | 21 | 31 | 37 | 25 | 22 | 504 |
| 1999 | 837 | 1,283 | 3,831 | 5,654 | 3,883 | 1,766 | 4,250 | 5,722 | 3,742 | 5,512 | 5,968 | 4,193 | 46,641 |
| 2000 | 2,630 | 2,644 | 2,863 | 2,750 | 2,658 | 1,949 | 2,173 | 2,971 | 4,721 | 2,950 | 139 | 31 | 28,479 |
| 2001 | 32 | 18 | 40 | 25 | 18 | 22 | 17 | 30 | 25 | 112 | 75 | 58 | 472 |
| 2002 | 64 | 40 | 23 | 15 | 18 | 100 | 175 | 103 | 42 | 81 | 56 | 46 | 763 |
| 2003 | 394 | 713 | 350 | 726 | 743 | 1,007 | 1,603 | 2,140 | 352 | 347 | 545 | 405 | 763 |
| 2004 | 811 | 636 | 750 | 1,463 | 926 | 1,568 | 2,239 | 2,274 | 954 | 714 | 1,219 | 1,896 | 15,441 |
| 2005 | 1,065 | 1,210 | 1,728 | 3,761 | 3,077 | 2,715 | 2,556 | 7,385 | 3,332 | 2,135 | 3,727 | 2,340 | 35,032 |
| 2006 | 2,944 | 2,515 | 1,866 | 4,542 | 2,956 | - | - | - | - | - | - | - | 14,823 |
| Total | 4,820 | 4,361 | 4,344 | 9,766 | 6,959 | 4,283 | 4,795 | 9,659 | 4,277 | 2,849 | 4,946 | 4,236 | 65,295 |

Source : Hotel Survey conducted by the JICA Study Team in June 2006

Overnight tourists in Jericho has been increasing since 2003 and expected to exceed 50,000 in 2000 and increase of overnight of the tourists in the first two months in January and February in 2006 and recover the decrease of overnight visitors. However, the political stability in Jericho, such as Intifada in October 2000 and attack of prison by Israel Army in March 2006 has broken the growth of the tourism in Jericho.

After the Intifada in 2000, the hotels started their business promotion to domestic tourist market in order to compensate the sharp decrease of the hotel guest. The hotels created new hotel stay program such as “Swimming holiday Pack” and “Weekend Family Pack” to attract the domestic tourist market, living in Jerusalem, Bethlehem and Ramallah and they are nowadays the important clients for the hotels in Jericho.

**Table 4.3.11 Overnight Tourists in Jericho**

| | Total Overnight | Palestinian | % | Foreigners | % |
|---|---|---|---|---|---|
| 2003 | 9,325 | 8,543 | 91.6 | 782 | 8.4 |
| 2004 | 15,441 | 14,756 | 95.6 | 685 | 4.4 |
| 2005 | 35,031 | 29,790 | 85.0 | 5,241 | 15.0 |
| 2006 | 14,823 | 10,097 | 68.1 | 4,726 | 31.2 |

Source: Hotel Survey Conducted by the JICA Study Team in June 2006

The monthly fluctuation is one of the issues to ensure the stable incomes and employment of the skilled manpower for the hotels in Jericho. Overnight tourists in Jericho is shown in the following Figure.

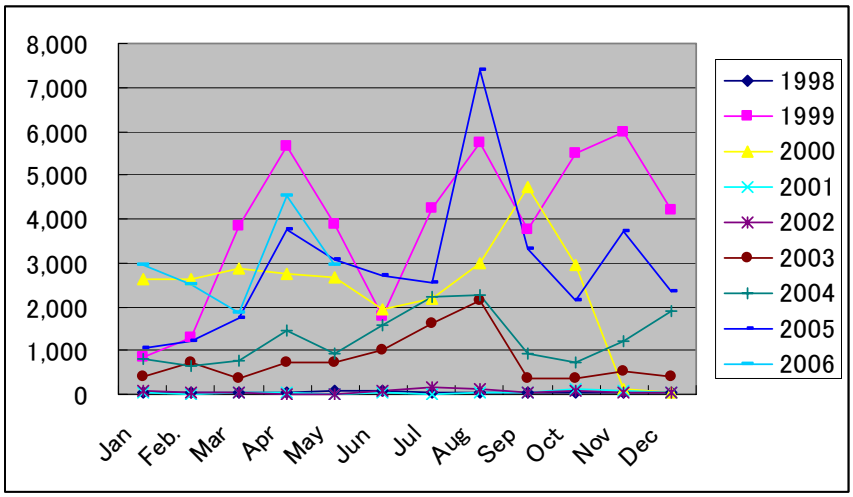



**Figure 4.3.2 Monthly Arrivals of Overnight Tourists in Jericho**

According to the Family Packages offered by the hotels in Jericho, monthly fluctuation is completely accord to the school holiday in April and August. Meetings and conventions in November is also popular for the participants because of the mild and pleasant climate in Jericho, especially for the people living n the highland, such as Bethlehem, Jerusalem and Ramallah.

(3) Purpose of Visits to Jericho

The Study Team has conducted a short tourist survey to investigate the attractions of Jericho tourism and the purpose of visits. The following results were obtained.

**Table 4.3.12 Purpose of Visits to Jericho**

| Survey Site | Tell es-Sultan | | | Hisham's Palace | | |
|---|---|---|---|---|---|---|
| No. of Groups and Visitors | Groups | Visitors | (%) | Group | Visitor | (%) |
| Pilgrimage | 23 | 916 | 61.0 | 0 | 0 | 0 |
| Domestic School excursion | 2 | 295 | 19.7 | 4 | 138 | 69.7 |
| Holiday | 4 | 95 | 6.3 | 17 | 55 | 27.8 |
| Conference | 5 | 195 | 13.0 | 0 | 0 | 0 |
| Others | 0 | 0 | 0 | 3 | 5 | 2.5 |
| Total | 34 | 1,501 | 100 | 24 | 198 | 100 |

Source: Survey by the JICA Study Team (includes multiple answers)

It is understood that 61.0% of tourists visiting Tell es-Sultan are foreign religious tourists on pilgrimages. Hisham's Umayyad Palace was found to be a destination for domestic excursion tourists. It is an appropriate site for the education of Islamic Culture and Arabic architecture brought by the Turkish dynasty as well as castles in the Jordan desert.

A natural eco-park is being constructed on the perimeter of Jericho City by the PWLS. The objective of the park is to provide educational information on natural conservation and protection of the environment for domestic tourists, especially school children. Environmental education classes have been introduced in elementary schools in all districts of the West Bank and Gaza and are attracting children to learn the practice of natural conservation.

(4) Length of Stay

According to a survey conducted by the MoTA, the average length of stay for tourists was 3.5 days in 2004. The poor condition of the tourist sites in the Greater Jericho, insufficient shopping opportunities and poor urban amenities mean that tourists are only short time visitors. The development of the amenities in the city, would extend the average length of stay by at least one more day.

## 4. Tourism Facilities and Tourism Related Infrastructure

(1) Accommodation

According to the MoTA, there are 122 accommodation facilities with 5,742 rooms in total in the West Bank and Gaza. In the Greater Jericho, three hotels with 323 rooms and four other types of accommodation with a total of 46 rooms are available.

**Table 4.4.1 Tourist Accommodation in the West Bank and Gaza in 2005**

| City | Hotels | | Others | | Total | |
|---|---|---|---|---|---|---|
| | No. | Rooms | No. | Rooms | No. | Rooms |
| Jerusalem | 35 | 2,151 | 15 | 305 | 50 | 2,456 |
| Bethlehem | 13 | 1,029 | 13 | 531 | 26 | 1,560 |
| **Jericho** | **3** | **323** | **3** | **46** | **6** | **369** |
| Nablus | 3 | 89 | 4 | 32 | 7 | 121 |
| Ramallah | 9 | 300 | 7 | 427 | 16 | 727 |
| Hebron | 2 | 103 | 1 | 19 | 3 | 122 |
| Jenin | 0 | 0 | 1 | 13 | 1 | 13 |
| Gaza | 8 | 263 | 5 | 111 | 13 | 374 |
| Total | 73 | 4,258 | 49 | 1,484 | 122 | 5,742 |

Source: MoTA

(2) Tourism Related Infrastructure

The issues on tourism related infrastructure are as follows:

a) Access roads to tourist sites

Access roads to the tourist sites are essential for the efficient operation of the tourism activities (i.e. to shorten the time taken to visit the tourist sites). This will mean that tourists can stay at the sites for a longer time and this could generate more expenditure in the souvenir shops, restaurants, cafés and shops.

The access roads to Tell es-Sultan, Mount Temptation, Dier Hijle and Qumran are excellent. However the access roads to other tourist sites are constructed of macadam asphalt, gravel or dirt roads and tourists have to endure a long and uncomfortable journey to these sites.

Upgrading of the road infrastructure would contribute towards; the smooth operation of tourist activities, increasing the number of sites visited, extending the amount of time that tourists spend on the sites, increasing the expenditure of tourists, saving the costs of fuel and vehicle repairs, and extending the life of vehicles. The access roads are especially important, but they are often neglected from road development plans because they are not utilized for the logistics transport.

b) Insufficient telecommunication system and expensive charges

Telecommunications are an essential business tool and one of the main costs for tourism suppliers. The high telephone charges and low quality data communication systems are threats for the promotion of tourism businesses, especially for operators and agencies for reservations and promotional activities.

The cost of the telecommunication services and agent commissions will need to be added onto the tour prices. This may weaken the price competitiveness of the tourist activities. In addition, slow and low quality data communications will disappoint customers accessing the Jericho tourism website which may, in turn, lose some of the tourism business.

c) Absence of a traffic management plan and lack of parking spaces

At present, all vehicles pass through the center of Jericho City to travel to their destinations. The absence of traffic management results in heavy traffic congestion in the city center and disturbs the smooth flow of traffic and local economic activities. In addition, the absence of parking areas for vehicles and taxis makes the congestion more serious. In order to solve the presently chaotic traffic situation in the city center and create a pleasant urban environment, the development of an effective traffic management plan by the municipal administration is necessary. The development of public parking areas is also important for the promotion of urban tourism.

## 5. Regional Cooperation in Tourism Promotion

Because of the common historical and cultural background, tourism resources and attractions in the region and Jericho is one of the destinations in the regional tourism network, and most of the tour programs for the Middle East tourism are composed of destinations in more than two countries in the region, it is essential to carry out the cooperative tourism promotion with the cooperation of the regional countries in order to reinforce the attraction of tours and marketing power of the tours of Jericho tourism in major tourist market countries.

**Table 4.5.1 Tourist Arrivals in the Region (incl. same day visitors)**

| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|
| Palestine | 767,000 | 907,000 | 1,055,000 | 81,000 | 9,400 | 46,000 | 103,000 |
| (%) | (7.9) | (7.8) | (8.6) | (0.9) | (0.1) | (0.4) | (0.8) |
| Israel | 2,200,000 | 2,566,000 | 2,672,000 | 1,219,000 | 862,000 | 1,063,000 | 1,505,000 |
| (%) | (22.6) | (22.2) | (21.8) | (12.9) | (8.7) | (9.6) | (11.3) |
| Jordan | 3,303,000 | 3,315,000 | 3,019,000 | 3,512,000 | 3,916,000 | 4,587,000 | 5,587,000 |
| (%) | (34.0) | (28.6) | (24.7) | (37.1) | (39.2) | (41.3) | (42.0) |
| Egypt | 3,454,000 | 4,797,000 | 5,506,000 | 4,648,000 | 5,192,000 | 5,400,000 | 6,100,000 |
| (%) | (35.5) | (41.4) | (44.9) | (49.1) | (52.0) | (48.7) | (45.9) |
| Total | 9,724,000 | 11,585,000 | 12,252,000 | 9,470,000 | 9,979,400 | 11,096,000 | 13,295,000 |
| (%) | (100.0) | (100.0) | (100.0) | (100.0) | (100.0) | (100.0) | (100.0) |

Source: Ministry of Tourism and Antiquity, Palestine, Jordan
Ministry of Tourism, Israel
WTO Compendium of Tourism

The Peres Center for Peace, NGO of Israel, has been holding the regional cooperation for tourism development with the cooperation with regional countries and presence of the leading people of tourism from public and private sector in Palestine, Egypt and Jordan since July 2004. The Peres Center has held workshops, meeting, exhibition and conference. The main objective is to establish regional peace through tourism development and at the same time to establish favorable environment for private sectors to undertake tourism business, such as cross border procedure of Israel which is harming the tourism Palestine and Israel as well. But the workshops are mainly for the suggestions to public sector and any concrete measures for business cooperation for marketing promotion has not been discussed in the meeting, and the concrete and practical suggestions are expected by the participants from the private sector.

1) July 2004 : Forum for Palestine and Israeli business people from tourism industry
2) November 2004 : Meeting with Israeli Minister of Tourism
3) January 2005 : Regional tourism conference
4) July 2005 : Jordanian-Israeli conference in Germany
5) November 2005 : Marketing plan seminar for hotel managers
6) March 2006 : Border tourism and regional development at the frontier of Israel with neighboring countries

In order to complement the very important suggestion for the public sector, it is considered that concrete suggestions and support for the private sector is expected by the private sector in Palestine, Egypt, Jordan and Israel to discuss concrete measures and methods for regional cooperation for tourism development and promotion.

# ANNEX 5: CURRENT SITUATION OF TRADE AND INDUSTRY

## 1. Industrial Output

### (1) Overview of Palestinian Industries

Due to the long Israeli occupation, the Palestinian economy has been characterized by a substantial dependence on the Israeli economy. Despite gradual gains in autonomy in political and economic activities since the Oslo Accords in 1993, the Palestinian economy has not yet enjoyed even its limited potential because of the various restrictions and impediments imposed for security reasons and still strengthened following the Second Intifada. The table below shows the impact of the Second Intifada on the industrial sector in the West Bank and Gaza as a whole.

**Table 5.1.1 Evolution of the Industrial Sector before and after the Second Intifada**

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|
| *No. of Enterprises.* | 11,306 | 14,438 | 14,471 | 14,849 | 14,509 | 14,605 | 14,179 | 13,693 |
| *No. of labor* | 52,254 | 66,113 | 65,099 | 72,660 | 76,918 | 69,569 | 65,526 | 60,185 |
| *Gr. Val. Ad.($m)* | 449 | 658 | 596 | 787 | 699 | 459 | 367 | 477 |
| *% of GDP* | 17.0 | 15.4 | 15.6 | 14.9 | 15.7 | 14.8 | 14.1 | 14.4 |

Source: Palestinian Central Bureau of Statistics

Accordingly the industrial sector in the West Bank and Gaza continues to consist of mainly resource-oriented and light industries, as shown in the following table.

**Table 5.1.2 Main Industrial Activities (Value in US$ million)**

| Industrial Activities | Gross Value Added | No. of Employees | No. of Companies |
|---|---|---|---|
| Stone & quarrying | 10.2 | 1542 | 301 |
| Food & beverages | 130.7 | 7650 | 1540 |
| Textiles | 20.5 | 1711 | 286 |
| Wearing apparel | 55.3 | 14926 | 2274 |
| Leather | 13.3 | 2932 | 695 |
| Wood products | 8.4 | 2265 | 838 |
| Paper | 3.8 | 423 | 45 |
| Publishing & printing | 4.5 | 816 | 159 |
| Chemicals | 31.2 | 1750 | 158 |
| Rubber & plastics | 11.6 | 1167 | 128 |
| Non-metallic products | 68.8 | 10403 | 1730 |
| Basic metals | 0.2 | 47 | 20 |
| Metal Products | 31.5 | 6110 | 2902 |
| Machinery & equipment | 6.5 | 762 | 199 |
| Electrical machinery | 1.5 | 287 | 80 |
| Medical & optical equipment | 0.9 | 95 | 46 |
| Motor vehicles & trailers | 0.3 | 66 | 18 |
| Furniture | 61.1 | 6219 | 1925 |
| Electricity | 18.2 | 343 | 19 |
| Water | 3.3 | 671 | 330 |

Source: MoNE

(2) Current Situation in Jericho and the Jordan Rift Valley area

The West Bank as a whole, including the Jordan Rift Valley area, has a modest economy. Agriculture is the primary economic activity in the region. The major products include citrus and other fruit, olives, vegetables and cereals. Sheep and goats are the principal livestock. Due to the low level of investment capital, the West Bank supports only a few small industries, which include food processing, textiles, and cement manufacturing. According to the Jericho Office of the Ministry of the National Economy (MoNE), under the current situation most of the industries operate at a relatively low rate and are obliged to sell their products at higher prices, resulting in a loss of competitiveness.

**Table 5.1.3 Top 10 Manufacturers in the Jericho District**

| Name of Company | Products | Sales 2004 ($ th) | Employees | Export | Op/Capa |
|---|---|---|---|---|---|
| COPSCO | Steel for building | 66,000 | 60 | ○ | 60% |
| West Bank Salt Co. | Salt | 4,000 | 32 | × | 85% |
| Jericho Natural Water Co. | Bottled water | 3,500 | 40 | ○ | 60% |
| Ghosheh Co. | Sausages | 2,100 | 12 | ○ | 50% |
| National Water Co. | Bottled water | 1,600 | 20 | × | 65% |
| Al Awdeh Co. | Concrete | 900 | 10 | × | 10% |
| Arab Development Soc. | Dairy products | 800 | 8 | × | 80% |
| Ashawa Establishment | Clothes | 250 | 20 | × | 20% |
| Brothers Establishment | Clothes | 250 | 18 | × | 60% |
| Jericho Brick Factory | Bricks | 230 | 8 | × | 23% |

Source: Jericho Office, MoNE

(3) Current System for Industrial Promotion

The legal systems, including tax and other incentives, are relatively competitive compared to neighboring countries. The Palestinian National Authority (PNA) has specialized independent governmental agencies/institutions to promote investment in industries such as the **Palestinian Investment Promotion Agency (PIPA)** and also implementing agencies such as the **Palestine Investment Fund (PIF)** and the **Palestinian Industrial Estates & Free Zones Agency (PIEFZA)** for industrial development projects. Consideration should be given to the establishment of a public system to support the small and medium enterprises (SMEs) and the development of its technology base.

**Table 5.1.4 Governmental Agencies/Institutions for Industrial and Trade Development**

| Agency/Institution | Function |
|---|---|
| PIF | Business capital investment |
| PalTrade | Trade promotion & capacity building |
| PIEFZA | Development of Industrial Estate (IE) / Free Trade Zone (FTZ) |
| PSI | Standards and certification (Palestine Standards Institute) |
| N.A. | SME development through financial and/or management assistance |
| N.A. | Industrial research & laboratory of applied technology |

Source: JICA Study Team

**Table 5.1.5 Comparison of Investment Promotion Laws in the West Bank and Gaza, Israel, Jordan and Egypt**

| | The West Bank and Gaza | Israel | Jordan | Egypt |
|---|---|---|---|---|
| ***Tax incentives*** | Exemption for 5-9 years. Additional exemption for more than $5m and for export projects. | Exemption for 2-6 years and other additional incentives for particular sectors. | Exemption for 5-9 years. | Exemption for 5-15 years. |
| ***Income Tax*** | 38% | 40% | 38-40% | 32% |
| ***Customs Exemption*** | All capital goods | Customs exemption | Capital equipment | 5% for capital equipment |
| ***Licenses*** | Comprehensive requirements | Comprehensive requirements | Only registration | Contact with discretional authority |
| ***Restrictions on foreign investment*** | Equality between local and foreign investors | Determined | Strategic sectors Special treatment for the Arab investor | Shareholding limit in seven sectors |
| ***Guarantee of foreign investment*** | Returning investments to their sources | Returning investments to their sources | Returning investments to their sources | Should be previously accepted |
| ***Restriction of foreign exchange*** | No restriction | No restriction on current account | Restrictions | Monitoring |

Source: Palestine National Information Center

## 2. Foreign Trade and Investment

### (1) Overview of Foreign Trade

Palestinian foreign trade is characterized, as shown in the following table, by a huge trade deficit and its heavy dependence on Israel mainly due to the Israeli-Palestinian customs union and a narrow industrial and agricultural production base, as well as some Israeli restrictions on the use of natural resources. The situation has been exacerbated by the closures. Palestinians also import a wide range of the necessities of life.

The deficit has been substantially compensated for by income transfers from Palestinian workers who are resident in foreign countries and by the financial assistance of donor countries and international organizations. This chronic imbalance also justifies the World Bank's assertion that "the future of Palestinian economic development lies in moving from an economy based on labor exports to Israel to an economy exporting goods and services to Israel and the rest of the world."

**Table 5.2.1 Foreign Trade by Country Group (in US$ million)**

| | | 2000 | 2001 | 2002 |
|---|---|---|---|---|
| **Total Imports** | | 2,383 | 2,034 | 1,516 |
| **Total Exports** | | 401 | 290 | 241 |
| Total Exports from West Bank | | 323 | 252 | 208 |
| Total Exports from Gaza Strip | | 78 | 38 | 33 |
| **Net Trade Balance** | | - 1,981 | - 1,743 | - 1,275 |
| **Israel:** | **Imports from** | 1,739 | 1,352 | 1,117 |
| | Exports to | 370 | 273 | 216 |
| **EU:** | **Imports from** | 263 | 359 | 16 |
| | Exports to | 2 | 3 | 9 |
| **Arab Countries:** | **Imports from** | 40 | 37 | 31 |
| | Exports to | 29 | 15 | 15 |
| **Asian Countries:** | **Imports from** | 219 | 183 | 157 |
| | Exports to | 0 | 0 | 0 |
| **American Countries:** | **Imports from** | 67 | 52 | 8 |
| | Exports to | 0.1 | 0.1 | 0.2 |

Source: Palestinian Central Bureau of Statistics

**Table 5.2.2 Foreign Trade by Sector (in US$ million)**

| | Exports | | | Imports | | |
|---|---|---|---|---|---|---|
| | **2000** | **2001** | **2002** | **2000** | **2001** | **2002** |
| Food & live animals | 85 | 34 | 27 | 432 | 409 | 325 |
| Beverages & tobacco | 14 | 13 | 14 | 102 | 97 | 76 |
| Crude materials | 16 | 13 | 14 | 62 | 42 | 36 |
| Mineral fuels/lubricants | 4 | 2 | 2 | 456 | 377 | 361 |
| Animal & vegetable oils | 6 | 6 | 6 | 18 | 16 | 15 |
| Chemicals | 30 | 28 | 20 | 231 | 164 | 140 |
| Manufactured goods | 153 | 120 | 95 | 522 | 498 | 292 |
| Machinery & transport | 24 | 17 | 12 | 352 | 248 | 181 |
| Miscellaneous articles | 71 | 56 | 50 | 199 | 181 | 91 |
| Commodities | 0.2 | 0.5 | 0.5 | 9 | 1 | 0.1 |
| Total | 401 | 290 | 241 | 2,383 | 2,034 | 1,516 |

Source: Palestinian Central Bureau of Statistics

As observed in the above table, the West Bank and Gaza depend heavily on imports from Israel (74% of total inputs in 2002) and exports to Israel (over 90% of total exports). On the other hand, the imports to the West Bank and Gaza from Jordan amounted to US$ 22 million (1.5% of total imports in 2002).

Main exports of the West Bank and Gaza to Jordan include fresh fruit, soaps, meat products and stones. Imports from Jordan are cement, paints, steel/aluminum and cartons.

Understandably, the trade with Israel and Jordan represents a large share of the countries total trade. The promotion of further trade with the neighboring

**Table 5.2.3 Exports and Imports to/from Jordan**

(US$ million)

| | Exports | Imports |
|---|---|---|
| 1999 | 30 | 13 |
| 2000 | 14 | 27 |
| 2001 | 13 | 24 |
| 2002 | 11 | 22 |
| 2003 | 10 | 23 |
| 2004 | 12 | 24 |

Source: Ministry of Industry and Trade, Jordan

countries would be of greatest significance to the Palestinian economy. In this context, the development of the economic corridor connecting Israel, the West Bank and Gaza and Jordan is to be implemented for mutual interest.

(2) Current System for Trade Promotion

As noted previously, there are several organizations that promote investment in the industrial and trade sectors. The **Palestine Trade Center (PalTrade)** is the most important organization supplying comprehensive services for the promotion of trades in the private sector. PalTrade is an effective vehicle for the promotion of trade activities in Jericho and the Jordan Rift Valley area. Its mission is to develop trade through:

- advocating a competitive, business enabling environment,
- improving trade competitiveness through trade promotion and capacity building,
- fostering international business practices and standards among professionals, firms and business organizations,
- providing trade-enabling knowledge.

Its know-how and wide network, with the membership of more than 190 leading Palestinian businesses, should be utilized for trade development in Jericho and the Jordan Rift Valley area.

(3) Necessity for a Logistics Industry

Other than its natural, cultural and historical advantages, its geographical location would give Jericho and the Jordan Rift Valley area a strategic advantage as an important logistics center connecting the neighboring countries. History reminds us that a number of ancient kingdoms, such as Judea and Babylonia, once prospered based on trade promotion and making good use of the geographical advantages of the area. An idea is to create a **Free Trade Zone (FTZ)** in the future when the political conditions permit.

Although many people in various industries admit the importance of a Jericho FTZ for the future economic development of the region, there is currently no national or regional plan for this project. A feasibility study would be recommended in view of the future high potential of this project however it may not be feasible under the current security and political situation to develop it on a sizable scale. It should be noted that a FTZ would contribute towards confidence building in the region through the enhancement of trading activities with neighboring countries.

The FTZ idea should be studied in conjunction with the planned Industrial Estate/Free Zone project to make full use of its advantages, namely the favorable climate and strategic location, as well as other infrastructure projects that are under consideration such as restoration of the **Damiya Border Bridge** and

construction of **Al-Shouna airport** in Jordan. Such projects would enhance the strategic importance of Jericho as the "Crossroads of Europe, Asia and Africa" in addition to the benefits of the free trade agreements allowing duty and quota-free entry of products to the EU, USA and the Middle East.

To strengthen the logistical function of Jericho as a "west gate" as well as to facilitate Israeli security control, it is necessary for the Jordan border bridges (Damiya and Allenby) to be updated with more effective and efficient security and custom facilities such as X-ray inspection machines, a computerized customs clearing system, and other logistics. Sealing containers will reduce costs and damage caused by the current back-to-back system whereby Palestinian freight has to be unloaded at Israeli checkpoints and transferred to a second vehicle on the other side of the checkpoint. These measures will enhance the balance between security and trade facilitation and hence contribute towards an increased number of exports and imports through Jericho and the Jordan Rift Valley area.

(4) Trade Promotion Policy

Sustainable economic development will depend not only on increased private investment, but also on replacing labor with goods as the main export and worker remittances as the major foreign exchange earning. This requires the creation of a competitive, export-based economy linked to diverse markets. A major reconstruction task for the PNA is the expansion of trade and redressing of the trade imbalance.

The PNA has two major constraints to tackle with respect to trade promotion; one is the restrictions imposed by the Israeli closure regime on the movement and access of people and goods within the West Bank and across borders, and the other is the lower competitiveness of Palestinian goods that has resulted from the higher logistic and labor costs and the low productivity and quality.

The first constraint is difficult to handle by the PNA alone as it depends substantially on an external factor: the Israeli security policy. With the recent easing of the closure regime, efforts to upgrade the Jordan border bridges, as referred to above, will help to further ease the regime in question. The consolidation of trade agreements with neighboring countries, including Israel, will also aid the access of Palestinian products to various markets.

Improvement in the competitiveness of Palestinian products will depend on efforts from both public and private sectors. The PNA should arrange favorable business environments and conditions for the private sector to enhance market access, build trading relationships, improve product quality and diversification, and enhance productivity by introducing the necessary legal framework, financial and technical assistance, information dissemination on international trade best practices, training, tax incentives, and other appropriate measures.

Even under the current restrictive situation, the West Bank and Gaza could develop its logistical and trade potential through utilizing **Information and Communication Technology (ICT)**. With an educated labor force and the geographic proximity of the West Bank and Gaza to the Israeli High Tech Corridor

centered around Herzliya, the West Bank and Gaza has a high potential for developing ICT. In fact, the largest concentration of IT companies has been developed in Ramallah and Gaza. The IT sector has also established a significant presence in other locations such as Jerusalem, Nablus and Bethlehem. Based on the accumulation of IT firms and trained people and also the dissemination of IT know-how to the general public, the West Bank and Gaza could advance to the next stage of ICT which would provide greater opportunities for the public and private sectors to deliver and receive various on-line services in the future. This would enhance business opportunities. It is important for the PNA to plan and promote such a development strategy, as well as to train people and to direct public and private investment in these areas.

# ANNEX 6: CURRENT SITUATION OF INFRASTRUCTURE

## 1. Water Supply System

The water resources available for domestic use in the Jordan Rift Valley area are mainly springs, wells and Mekorot wells. In some small villages in Jericho such as Marj Na'ja, Al Zubeidat, Marj al Ghazal and Deir Hajla, which are located along the Jordan River, the residents draw water from agricultural wells to use as drinking water. Urban areas such as Jericho Governorate and the Tubas District, including refugee camps in these areas, have distribution networks. Most communities do not have water resources that are owned by Palestinians and consequently they depend on the Mekorot wells. Generally, the urban areas have access to the Palestinian water resources and the small villages depend on the Mekorot wells. Despite the spring water discharges in the area, Tubas and Al 'Auja use other resources. The Bardala area cannot use the spring water supply for drinking as it is brackish. The regional characteristics of the water use and supply conditions in the Jordan Rift Valley area are shown in the following table and figure.

**Table 6.1.1 Current Water Supply Conditions in the Jordan Rift Valley area**

| Communities | | Resource | Network | Pop. | Consumption ($m^3$/yr) | per capita (lpcd) *1 |
|---|---|---|---|---|---|---|
| Jericho | 'Ein as Sultan Camp | Spring | ○ | 1,916 | | 207 |
| | Jericho | Spring | ○ | 19,213 | | |
| | Al Jiftlik | Mekorot | | 4,141 | 63,860 | 71 |
| | Fasayil | Mekorot | | 847 | 34,150 | 110 |
| | Al 'Auja | Mekorot | | 3,774 | 111,530 | 84 |
| | Al Nuwei'ma | Mekorot | | 1,096 | 32 | 0 |
| | Aqbat Jabar Camp | Mekorot | | 5,970 | 340,710 | 156 |
| | 'Ein ad Duyuk al Foqa | Spring | ○ | 766 | 50,000 | 82 |
| | 'Ein al Duyuk al Tahta | Spring | ○ | 910 | | |
| | Al Nabi Musa | Mekorot | | 54 | | 20 |
| Tubas | Bardala | Mekorot | | 1,486 | 28,990 | 53 |
| | Kardala | Mekorot | | 156 | | 65 |
| | 'Ein el Beida | Mekorot | | 1,019 | | 65 |
| | 'Aqqaba | Mekorot | | 5,723 | 5,328 | 3 |
| | El Far'a Camp | Spring | ○ | 5,419 | 180,000 | 91 |
| | Tubas | Well | ○ | 15,161 | 415,000 | 75 |

Source: Water Supply for Domestic and Industrial 2003 (PWA)
*1 Including water losses

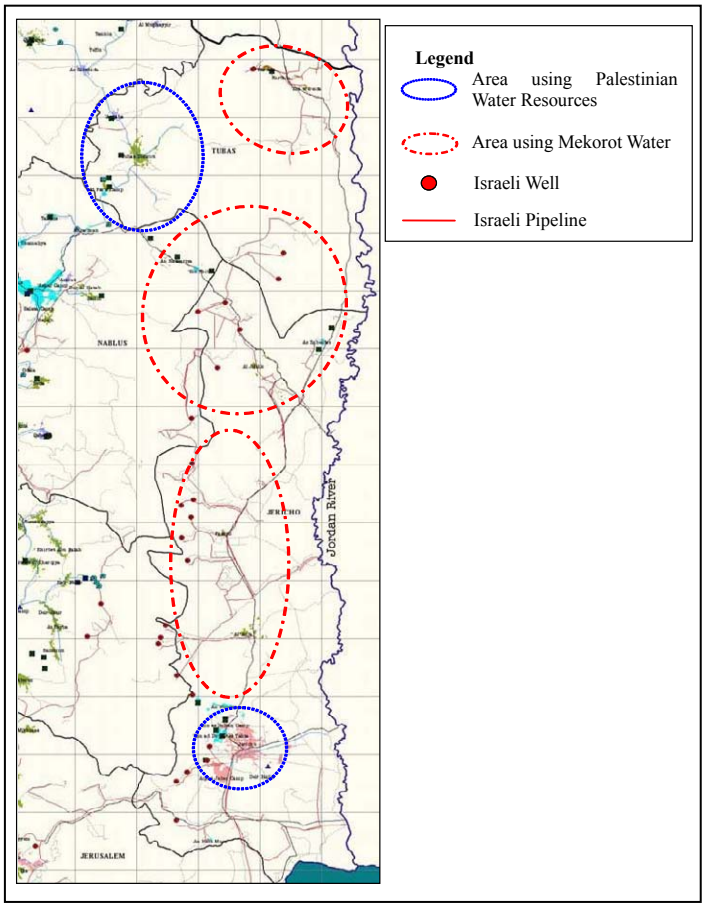



**Figure 6.1.1 Areas with Water Resources in the Jordan Rift Valley**

There are large differences in the water consumption levels of the different communities. While the urban areas that are supplied from the Palestinian water sources have a relatively sufficient water supply, the condition is serious in the areas using the Mekorot wells, especially in the communities in Tubas District. The different consumption levels for the communities using the Mekorot wells are due the water restrictions caused by the low level of available groundwater.

## 2. Wastewater Treatment System

There are no public wastewater treatment systems in the Jordan Rift Valley area. In general, households have cesspits and the collection and disposal of wastewater is carried out by a few major municipalities or private companies. However, the frequency of collection is not properly managed, and disposal sites are not provided by the municipalities. Wastewater discharges are causing contamination of the spring water. Preservation of the limited water sources needs be taken into consideration in compliance with the Oslo Accords.

One private wastewater treatment exists in Jericho city, which is owned and operated by Intercontinental Hotel in Jericho. All the wastewater produced in the hotel are transmitted to the plant and the treated water is utilized for watering for the plants in and around the hotel. The sludge, which is generated along the wastewater treatment process are used as compost for the plants.

The outline of the wastewater treatment plant of Intercontinental Hotel is summarized below:

**Table 6.2.1 Outline of Wastewater Treatment Plant in Jericho Intercontinental Hotel**

| | |
|---|---|
| Year of Installation | 1998 |
| Maximum Treatment Capacity | 2,000 $m^3$/day |
| Average Treatment Capacity | 1,000 $m^3$/day |
| Accumulated volume of the treatment | 423,517 $m^3$ (1998~2005) |
| Treatment Method | Aerobic activated sludge process |
| System design / fabrication | Israeli made |

Source: JICA Study Team

**Pre-treatment plant for oil removal**


**Aerobic Bioreactor (1st tank, 24 hrs operation)**

**Wastewater re-use for gardening**

**Draining sewage to Wadi Qilt without treatment**

The owner of the plant suggested to Jericho municipality to utilize the plant, but only one collector is so far using the plant, and all other wastewater collectors including Jericho municipality drain the collected wastewater to the river without treatment.

In Jericho city, three vacuum cars are available for collecting the sewage from the individual cesspits, of which two vacuum cars are owned by private owners and one is owned by Nuwei'ma / Duyuk village councils. The interview survey to the two private collectors are conducted, and the results are summarized as follows:

**Table 6.2.2 Interview Results to Vacuum Car Owners**

| Items | Owner A | Owner B |
|---|---|---|
| Commencement of Operation | 1995 | 2000 |
| Capacity of Vacuum Car | 11.0 $m^3$ (1 unit, 1992 made) | 7.5 $m^3$ (1 unit, 1984 made) |
| Number of Customers | 200 families/month | 90~100 families/month |
| Collection Fee | 50~60 NIS/Tank | 40~50 NIS/Tank |
| Dumping Site | 80% to WWTP in Jericho Intercontinental Hotel, 20% to Wadi Qilt | 100% to Wadi Qilt |
| Issues | - Difficult access to houses due to poor road condition<br>- Profit getting less due to increase price of gasoline | - Dumping site is too far from the service area<br>- Profit getting less due to increase price of gasoline<br>- Discrimination by people and customers to the sewage collection workers |

Source: JICA Study Team

The volume of sewage from toilet is estimated about 180 $m^3$/day, assuming the installation ratio of cesspits of the houses / buildings with 10% as of 2015. The capacity of existing wastewater treatment plant in Jericho Intercontinental Hotel would be sufficient to treat all the wastewater transported by vacuum cars.

### 3. Solid Waste Management

In the Jordan Rift Valley, there are three major open dumping sites existing, one in Jericho city, and the other two in Tubas district. All the open dumping sites are left without any environmental treatment such as sealing to the ground, provision of the buffer zone and so on. No special treatment for s medical hazardous wastes is provided for dumping.

People in the area, particularly the residents around the dumping sites are strongly claimed on the poor environmental treatment at the dumping sites. Improvement of environmental condition of the existing dumping sites is then identified as one of the most desirable public services.

A new landfill site is under construction in Arrabe, Jenin Governorate under the financial support by World Bank. After the completion of the works, it is planned that all the solid waste generated from Tubas district would be transported to the new landfill site.

For Jericho city, the existing dumping site is located in the city about 2km away from the city center. There is no buffer zone between the road and the dumping site, and the environmental condition is very poor. Moreover, bulk of solid waste are dumped anywhere along the Wadi Qilt and main road in and around the residential zones. The capacity of existing landfill site is almost full and it is required that Jericho municipality should find other sites for the future solid waste management.

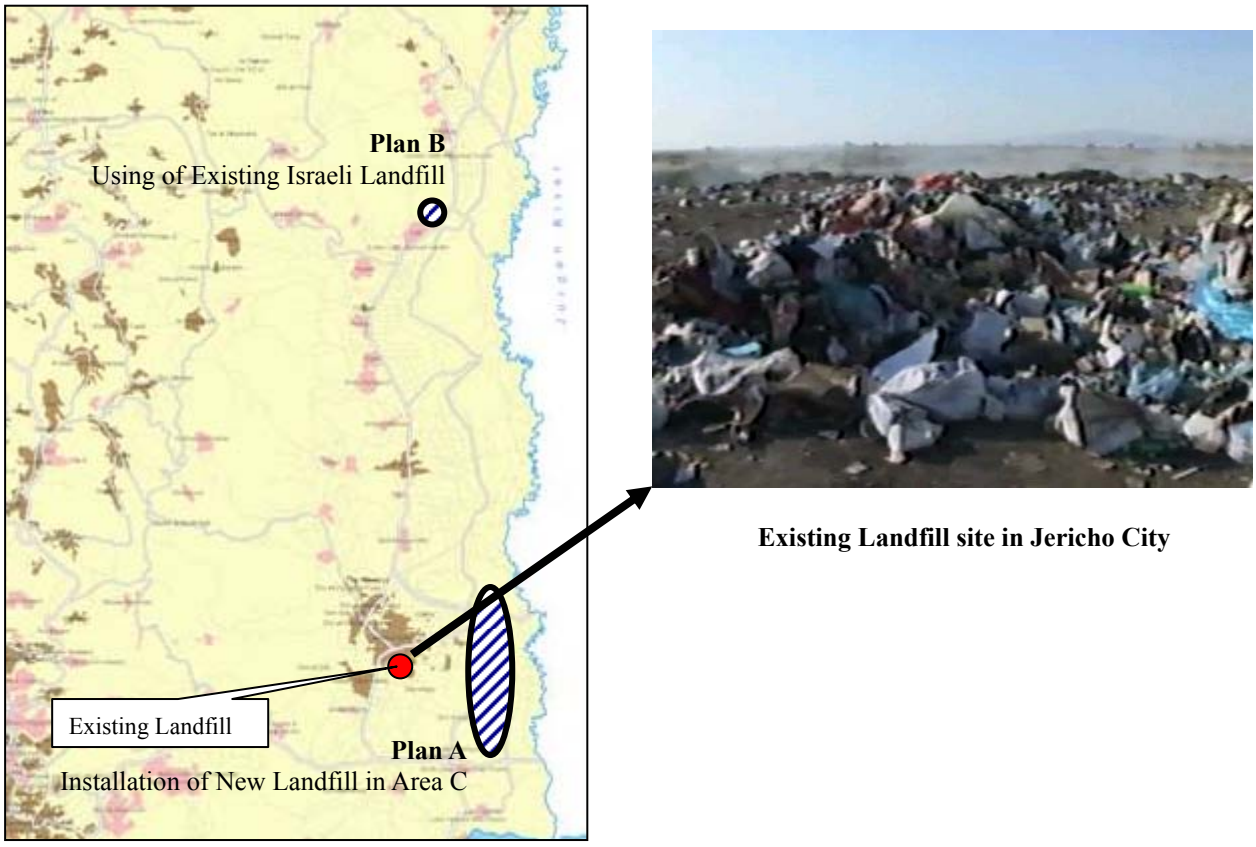



**Figure 6.3.1 Location Map of Existing Landfill Sites and Proposed New Landfill Site**

Currently, two proposed alternative solutions are to be evaluated, i.e., Plan A to construct a new landfill site and Plan B to utilize the existing Israeli landfill site paying a relatively high charge. A preliminary economic evaluation has been made on the basis of estimated pre-conditions for the cost estimate as shown in the following table.

**Table 6.3.1 Precondition for Cost Estimation**

| | |
|---|---|
| Generation of domestic solid waste per day: 30 t<br>Population: 30,000<br>Estimated average number of households: 7,500 | |
| <u>Plan A</u><br>Size of landfill site: 30 ha<br>Construction cost of landfill site: 7,780,000 US$<br>Operation cost of landfill site: 400,000 US$/year<br>Operational life: 30 years<br>Cost of equipment for landfill operation: 2,000,000 US$<br>Repair cost of equipment: 70,000 US$/year<br>Years of operation: 10 years<br>Operation cost of collection vehicles: 178,500 US$/year (4 vehicles) | <u>Plan B</u><br>Disposal fee of Israeli landfill site: 20,000 US$/year<br>Operation cost of collection vehicles: 223,500 US$/year (6 vehicles) |

Source: JICA Study Team

Based on the above preconditions, the cost for the 10 years up to 2015 is calculated as summarized in the following table.

**Table 6.3.2 Estimated Cost of Alternative Landfill Sites**

| Plan | Cost Item | Cost (US$) | Total Cost (US$) | Cost per year (US$) |
|---|---|---|---|---|
| Plan A | Construction/Initial Cost | 4,600,000 | 11,085,000 | 1,108,500 |
| | Operation Cost | 6,485,000 | | |
| Plan B | Construction/Initial Cost | 0 | 3,435,000 | 343,500 |
| | Operation Cost | 3,435,000 | | |

Note: Construction/Initial Cost is converted to its equivalent for 10 years because its Operational life is 30 years.

If the above costs would be covered by the collection fees from each household, the annual charge on each household is estimated as shown in the following table. For reference, the current collection charge for solid waste in Jericho is around US$33.0 annually per household.

**Table 6.3.3 Estimated Cost per Household**

| Plan | Cost per year (US$) | Number of Households | Cost per Household (US$/year) |
|---|---|---|---|
| Plan A (all costs will be covered by collection fees) | 1,108,500 | 7,500 | 147.8 |
| Plan A (construction cost will be covered by donations, operation costs will be covered by collection fees) | 648,500 | | 86.5 |
| **Plan B** | **343,500** | | **45.8** |
| **Current** | | | **33.0** |

Source: JICA Study Team

The above cost estimation may suggest that collection fees per household for Plan A would increased at least from US$ 33.0 to US$ 86.5 even if construction cost is covered on a grant basis. On the other hand, the increase in collection fee for Plan B is US$ 12.8.

While a decision on the selection of the landfill site is to be made not only from the economic viewpoint but from other conditions, land use zoning in the Greater Jericho Area under this Study will be planned on the assumption that Plan B would be applied to the solid waste landfill site.

## 4. Roads

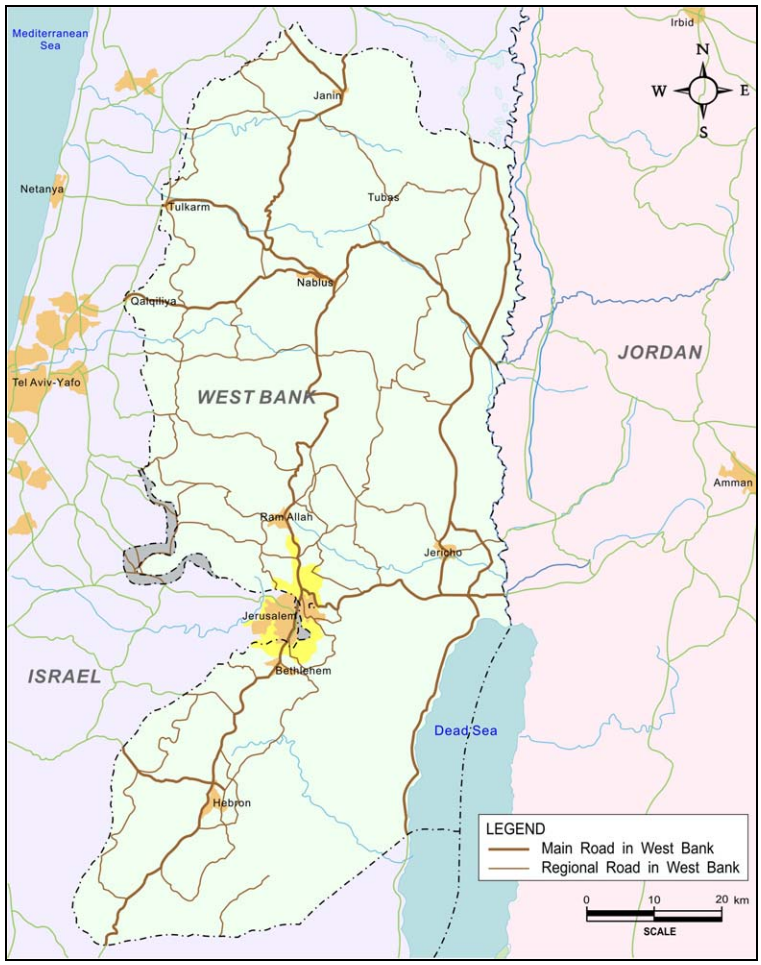
### (1) Road Network

#### (i) West Bank

Roads play an important role for the transport of people and goods. The total length of the roads in the West Bank is 4,456 km according to the Arab Studies Society 2004. The road types are classified into main, regional, local and bypass roads. The main roads provide intercity routes between the major cities and form a significant network linking up with the regional roads. The regional roads connect towns and large villages. The local roads serve as access to communities and the bypass roads[1] connect Israeli settlements for Israeli settlers and

[1] Although the bypass roads were constructed to be used for the Israeli settlers and security forces, Palestinian vehicles were allowed to use most of them in 1998. However, these roads may be replaced as "prohibited roads" as defined by the OCHA at present.

security forces. The network of main and regional roads in the West Bank is illustrated in the following figure:




Source: JICA Study Team

**Figure 6.4.1 Road Network in the West Bank**

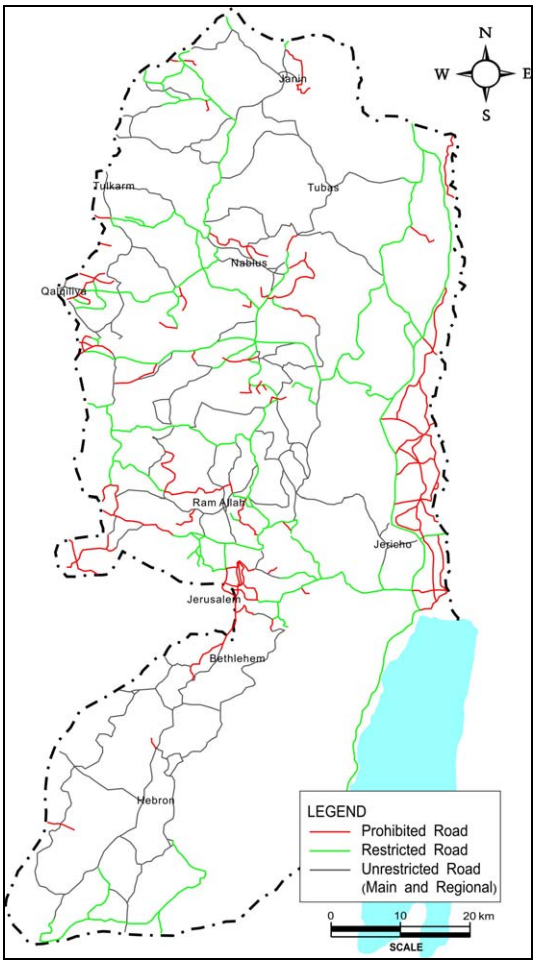
According to the UN Office for Coordination of Humanitarian Affairs (OCHA), roads in the West Bank are classified into the following types:

(i) Prohibited Roads: Roads on which Israel prohibits Palestinian vehicles to use;

(ii) Restricted Roads: Roads with restrictions for Palestinian vehicles; and

(ii) Unrestricted Roads: Free access for Palestinian travel.

The road classification for Palestinian vehicles is illustrated in the adjacent figure[2]. Most of the main roads in the northern West Bank area are classified as restricted roads and are located in Area C. In addition, Palestinian pedestrian and vehicular movement is constrained by checkpoints and blockades as shown in the following table. The total number of road closures decreased from 605 locations in April 2005 to 376 locations in August 2005, implying that the movement of Palestinians has gradually improved.




Source: JICA Study Team

**Figure 6.4.2 Road Classification for Palestinian Vehicles**

**Table 6.4.1 Checkpoints and Blockadse on Roads by District or Governorate**

| District / Governorate | Checkpoint | Partial Checkpoint | Roadblock | Road Gate | Earth Mound | Earth Wall | Trench | Total |
|---|---|---|---|---|---|---|---|---|
| Jenin | 4 | 0 | 1 | 2 | 0 | 0 | 3 | 10 |
| Tulkarem | 2 | 0 | 0 | 0 | 10 | 0 | 0 | 12 |
| Nablus | 8 | 1 | 3 | 4 | 36 | 0 | 5 | 57 |
| Tubas | 2 | 0 | 0 | 1 | 1 | 1 | 1 | 6 |
| Salfit | 3 | 0 | 2 | 2 | 3 | 1 | 1 | 12 |
| Qalqilia | 2 | 1 | 2 | 1 | 2 | 0 | 0 | 8 |
| Jerusalem | 8 | 0 | 6 | 1 | 19 | 0 | 0 | 34 |
| Jericho | 3 | 2 | 3 | 1 | 5 | 0 | 1 | 15 |
| Ramallah | 5 | 3 | 19 | 12 | 19 | 1 | 1 | 60 |
| Bethlehem | 9 | 0 | 2 | 4 | 15 | 0 | 0 | 30 |
| Hebron | 6 | 0 | 11 | 20 | 90 | 5 | 0 | 132 |
| Total | 52 | 7 | 49 | 48 | 200 | 8 | 12 | 376 |

Source: UN Office for the Coordination of Humanitarian Affairs, August 2005

[2] This figure is prepared based on the West Bank Closure Map as of August 2005 issued by the OCHA.

(ii) Jericho City

The road network in Jericho City has been developed in a radial pattern. The main and regional roads are paved with two or four lanes and connect to the city center. At present, access roads from/to the outside of Jericho City are limited to only north and south directions (Route 449 and Route 90) through checkpoints. Other roads are closed by roadblocks.

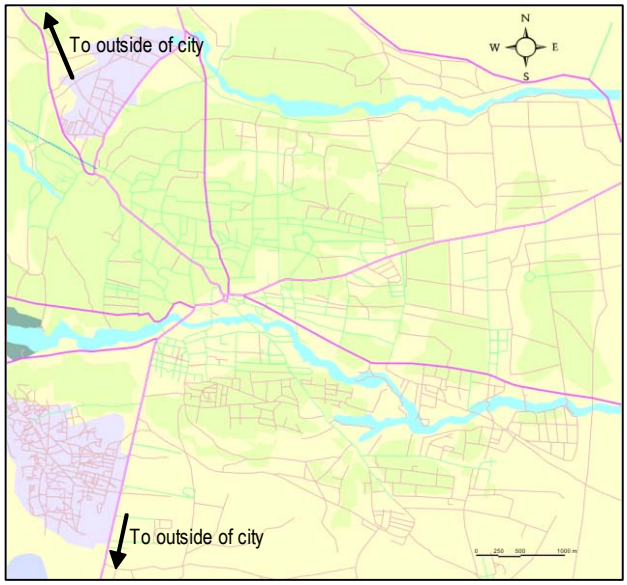



**Figure 6.4.3 Road Network in Jericho City**

As shown in the following photo, traffic in the city center is inefficient and unsafe as is evident by the chaotic traffic conditions. Although traffic polices sometimes manage to control the traffic to provide smooth traffic flow, the problem has not been completely solved.

**Traffic Conditions in Jericho City Center**

(2) Transport Conditions

Passenger transport consists of buses and taxis that are operated by private companies. A small number of buses provide inter-city services. Taxis, comprising of sedans and vans, are the dominant form of passenger transport and the share of these vehicles increases year by year as they can easily maneuver on local roads in response to passenger destinations. Most of the people in the West Bank have access to taxis. The van type taxis, containing eight seats, provide a shared service.

Freight transport being operated by private companies carries mainly agricultural products and industrial and construction materials. The demand has declined due to the deterioration in economic activity and trade flows since the Second Intifada[3].

The following table shows the number of licensed Palestinian vehicles in the West Bank. The Palestinian vehicles are constrained by the restrictions created by the roads, checkpoints and blockades and are mainly used for inner-city transport. On the other hand, Israeli vehicles can travel along most roads in the West Bank.

**Table 6.4.2 Number of Licensed Palestinian Vehicles in the West Bank in 2004**

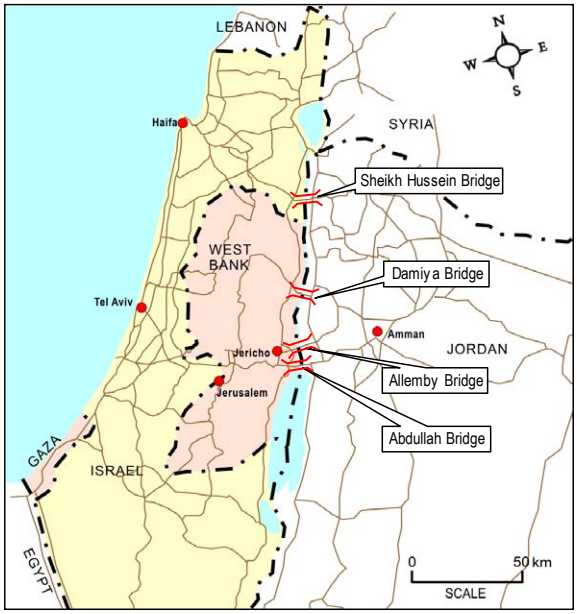
| Vehicle Type | No. of vehicles |
|---|---|
| Private Car | 46,166 |
| Taxi | 7,911 |
| Motorcycle and Moped | 24 |
| Bus | 878 |
| Trailer and Semi-Trailer | 21 |
| Tractor | 850 |
| Truck and Commercial car | 13,430 |
| Other vehicle | 224 |
| Total | 69,504 |

Source: PCBS, Ministry of Transport, August 2005

(3) Bridges across the Jordan River

At present, there are four bridges over the Jordan River in and around the West Bank, namely, Sheikh Hussein, Damiya (Prince Mohammad), Allemby (King Hussein) and Abudullah as shown in the following figure.

[3] Palestinian commodity exports including stone, agriculture, furniture, metal processing, food/beverages, footwear/leather and textile/garments dropped by 35% between 1999 and 2003 according to the technical paper issued by USAID and the World Bank in December 2004.



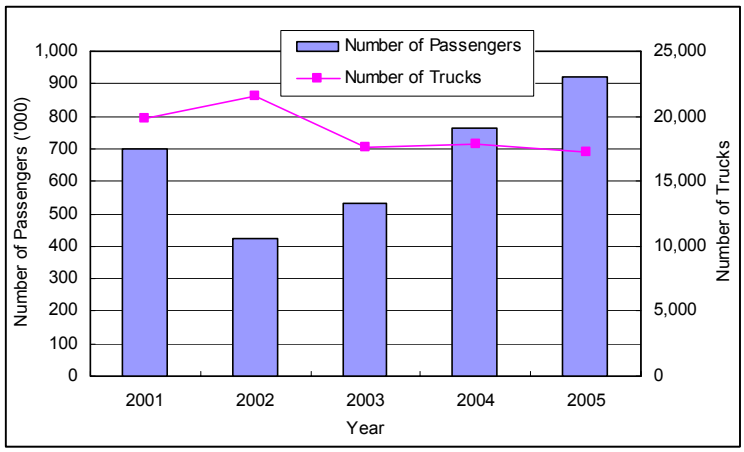

Source: JICA Study Team

**Figure 6.4.4 Bridges across the Jordan River**

The Sheikh Hussein Bridge is a trade route between Jordan and Israel. In 2003, 19,859 trucks traveled across the Sheikh Hussein Bridge and this was comprised of transshipments (93%) and bulk (7%)[4]. The type of cargo shifts from bulk to transshipments year by year. In particular, the Jordanian Qualified Industrial Zones (QIZs) export textiles and garments to the USA and Europe from Haifa Port and this cargo is carried across the Sheikh Hussein Bridge.

The Allemby Bridge is the sole gate between the West Bank and Jordan. The passenger and truck volumes over the past five years are illustrated in the following figure. The passenger volumes drastically increased between 2002 and 2005. The daily passenger volume is estimated to be approximately 2,800 passengers in 2005. On the other hand, the number of trucks has remained more or less at the same level between 2003 and 2005. The volume of trucks is estimated to be about 50 trucks per day in 2005.

[4] The position paper for Upgrading the Jordan River Border-Crossing issued by the Peres Center for Peace and the Israel-Jordan Chamber of Commerce.




Source: Ministry of Public Works and Housing in Jordan

**Figure 6.4.5 Passenger and Truck Volumes across Allemby Bridge**[5]

The Damiya Bridge was built as a temporary bailey bridge with one lane in 1969. In 2004, 3,525 trucks traveled across the Damiya Bridge[6] and the main cargo carried by these trucks was agricultural products. Due to the poor condition of the carriageway, the Damiya Bridge was closed in March 2005. Lastly, the Abudullah Bridge is currently closed due to its unsatisfactory condition.

It is noted that people travel across these bridges on special shuttle buses. However, trucks are generally not allowed to continue with their cargo to their destination. The trucks must off-load their goods at the border and load them onto another truck due to the Israeli security and customs[7]. This procedure is called the back-to-back system.

The back-to-back system is causing critical delays. To improve the delays and handle the increasing export volumes, the Government of Jordan is constructing an operating terminal on the Jordanian side of the Sheikh Hussein Bridge.

(4) Issues relating to the Current Transport Situation

Based on the overview of the current transport situation, the following issues have been identified:

(i) The major cities in the West Bank are serviced by main and regional roads, but the mobility of Palestinian vehicles is constrained by the Israeli physical barriers and checkpoints. In addition, the construction of new roads in Area C is limited and modifications to the alignment of existing roads are not allowed.

(ii) There are insufficient passenger transport services connecting the cities. As there are no reliable passenger transport services except for taxis, the mobility of the population is limited.

[5] The above data does not include passenger and truck volumes in December 2005.
[6] Ministry of Public Works and Housing in Jordan
[7] The Palestinian General Directorate of Customs and Excise was responsible for customs clearance at the border between the West Bank and Jordan until the outbreak of the Second Intifada.

(iii) The freight transported through the West Bank area needs to pass checkpoints and detour blockade and consequently suffers from higher transport costs, longer travel times and damage to the goods being transported.

(iv) The freight transported across the Jordan River is affected by serious delays at the border due to the security and customs clearance procedures (the back-to-back system). Consequently, extensive transport costs are incurred and opportunities to transport perishable commodities for export/import are lost.

(v) The main and regional roads in Jericho City are connected to the city center. As there is no inner or outer ring road, heavy traffic congestion is caused in the city center.

(vi) As there are no pavement markings, such as lane-lines and zebra-crossings at the roundabout intersection in the center of Jericho City, the carriageway and parking spaces are not divided. As a result, many vehicles are parked without any traffic restrictions and taxis use the roundabout intersection as a taxi pool.

## 5. Electricity and Communications

(1) Electricity

In the West Bank, the total energy consumption is approximately 890 GWh/year according to the Regional Plan for the West Bank prepared by the Ministry of Planning and International Cooperation (MoPIC) in 1998. This represents approximately 565 kWh/capita/year. The energy consumption for the West Bank and Gaza is rather low compared with the figures for Israel 5,127 kWh, Jordan 976 kWh and Egypt 777 kWh. The current usage by sector for the total energy from the network system is as follows:

- Residential use : 70%
- Commercial use : 18%
- Industrial use : 7%
- Others : 5%

More than 90% of the electrical energy consumed in the West Bank is imported from the Israeli Electricity Corporation (IEC). Distribution to the communities is the responsibility of Palestinian electricity companies and municipalities. The major distribution utilities in the West Bank include the Jerusalem District Electric Company (JDECo), Southern Electric Company (SELCo), Hebron Electricity Company (HEPCo), and those of the municipalities of Nablus, Jenin, Tulkarem and Qalqilia.

The JDECo was created in 1927, and is now 50% owned by the municipalities and 50% by the private sector. The JDECo distributes electricity over an area of 87 $km^2$ and serves East Jerusalem, Ramallah, Bethlehem, and Jericho. JDECo has 125,000 private and commercial customers and serves

approximately 600,000 people. The company reports fairly high technical and non-technical losses in the range of 18%. The Municipality of Nablus provides electricity to Nablus and 18 surrounding villages. The Nablus grid includes 65 km of 33 kV lines. Electricity is distributed through 232 distribution transformers with a total capacity of 108 MVA. The Southern Electricity Company (SELCo) serves five towns in the southern West Bank and the Hebron Electric Company (HEPCo) serves the city of Hebron. In Gaza, the Gaza Electricity Distribution Company (GEDCo) was established in 1999 and has 120,000 private and commercial customers.

Currently, these electricity utilities do not cover some rural areas (particularly in Area C), such as Frush Beit Dajan, Al Jiftlik and the Bardala area in the Jordan Rift Valley. There are some small diesel sets owned and operated by local authorities in the West Bank, for these areas. The consumption of the local authority's diesel sets is estimated at 26 GWh/year. In the West Bank, approximately 115,000 people in 74 localities are not served by an electricity supply, while approximately 228,000 people in 67 localities have partial service. The communities use diesel or kerosene for lighting in these areas. In the socio-economic survey, it was observed that 77% of the residents use electric lights in the villages in Nablus such as Annassariya, Alaqrabaniya, Ein Shibli and Frush Beit Dajan in spite of this proportion being almost 100% in other surveyed areas such as Jericho, Al 'Auja, Tubas and Tammun. The other 23% of the residents in the villages in Nablus use mainly kerosene, gas lamps, batteries and candles. It is believed that most of the residents in this 23% are living in Frush Beit Dajan as the other villages surveyed are in Area A or B which are covered by the Palestinian electric utility. According to the hearing survey of the Frush Beit Dajan Village Council, electricity is served by a small-scale diesel generator. The service hours are the five hours between 18:00 and 23:00. The socio-economic survey showed that the average cost of lighting is /month across the entire serviced area and NIS 65/month in the Nablus villages.

The issues relating to the supply of electricity in the West Bank are summarized below.

- The supply rate does not meet the demand rate
- There are still some areas where there is no electricity coverage
- The supply system suffers from severe deficiencies
- The supply rate from IEC is restricted

Currently, the above-mentioned issues result in a low level of service. Moreover, the restrictions in the electricity supply prevent the future planning for agriculture and industry, and will not allow for population growth and influx. The program components which have been set by the Palestinian Electricity Authority (PEA) to solve these problems are mainly categorized as follows:

- Development of an electricity generation station
- Rehabilitation and development of distribution and transmission networks

To develop the electricity of the West Bank supply without dependency on the IEC and to meet the future requirements for electricity demand, the following long-term plan was formulated in 1999:

- Two main thermal power stations will be constructed in Gaza and the West Bank. These should be sized to meet the projected future requirements. The Gaza station is assumed to cover the total needs in the period up to 2010, and the West Bank plant will be operated from that time to meet the further requirements.
- Until the construction of the two main stations, electricity will continue to be purchased from the IEC to meet the anticipated demand. The proportion of electricity supply imported from the IEC will be gradually reduced as the link-up with the Jordanian network is completed, and will be completely discontinued once the Palestinian power plants are in operation.

In addition to these plans, a development plan on electricity transmission facilities was formulated as summarized below:

- Replacement of the presently fragmented high-tension lines with a national grid connecting the proposed major power stations with all the major load centers, and other demand areas.
- Expansion of the present ratings of some of the transmission lines in order to improve their compatibility within the national grid.
- Extension of the present level of utility delivery to cover areas without adequate supply, with particular attention to communities with large populations and areas of high development potential.
- Reduction of the number of link-up points with the IEC network to a single point and provision of an additional single-point link-up to connect with the Jordanian grid.
- Construction of a dedicated link between Gaza and the West Bank for interconnection between these regions.

Following this plan, the PEC started supplying electricity in the Gaza Strip in 2003 using a power plant that has a capacity of 140 MW.

In addition, the Palestinian Energy and Natural Resources Authority (PENRA) has been carrying out a project for the development of electricity supplies for rural areas in the West Bank. This project is funded by the Belgium Government. There are 44 target areas including Al Jiftlik, Frush Beit Dajan and Fasayil located in Area C in the Jordan Rift Valley. The project for Fasayil has been completed, and commencement for Al Jiftlik has been approved the Israeli side. However, the project for Frush Beit Dajan has not yet been approved.

(2) Communications

Telecommunication service providers in the West Bank and Gaza have made good progress in increasing the supply of telecommunication services over the last 10 years. At the end of 2004, approximately 9% of households had access to a fixed telephone line compared with about 3% in 1995. Mobile services are also available in the West Bank, with penetration of 25% in 2004, about half of which is provided by Israeli operators. Jawwal, the mobile subsidiary of Paltel, has recently increased its customer base to approximately 450,000 persons.

Approximately 5% of households have access to the internet. Until recently, twelve internet service providers were providing connection and support services to internet users and a range of other data services through the Paltel network. The use of information technology in public services remains limited. The Palestinian National Authority (PNA) has a strategy to expand information technology in the public sector as well as other sectors, called e-government. Following this strategy, a server was developed in Ramallah to enable the sharing of information among the ministry officials. The Ministry of Telecommunications and Information Technology (MTIT) has another plan to establish a server in Jericho for not only the government jobs but also social services such as the postal and educational sectors. In the educational sector, the Government established the Palestinian Education Initiative (PEI) under a joint effort by the Ministry of Education and the MTIT. A program has been implemented by the Initiative to introduce information technology into schools to enhance their communication each other and to provide a consistent level of education.

The existing regulatory framework guiding the telecommunications sector is based on the Post and Telecommunication Law No.3 approved in 1996. The act assigns the MTIT key regulatory functions such as licensing new operators and managing frequency, setting tariffs, encouraging investment, monitoring and protecting consumer interests, and enforcing licenses. Under the Law, the MTIT also has broad powers to establish, operate and manage telecommunication networks. In a recent development, the Palestinian Cabinet announced the establishment of a telecommunications regulatory authority. The MTIT has also been working, with the support of international consultants, to draft a new telecommunications law and to build the requisite regulatory capacity.

# ANNEX 7: SITUATION OF REGIONAL ENVIRONMENT

## 1. Existing National Strategy and Action Plan

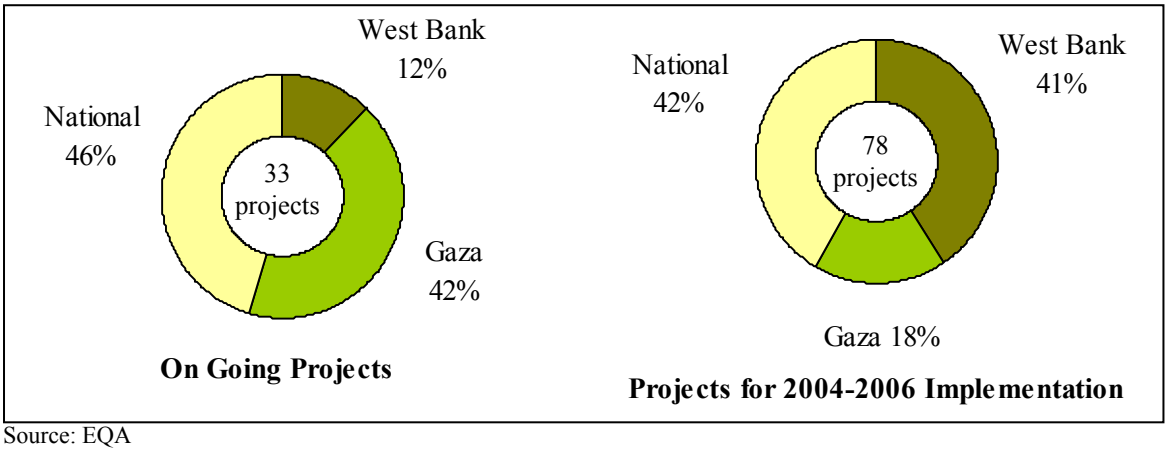
The PNA has formulated the Palestinian Environmental Strategy (PES) for the period from 2000 to 2010. The PES summarizes the current environmental problems, defines targets and proposes prioritized measures required for meeting such targets, as shown in the following table.

**Table 8.1.1 Prioritization of Environmental Issues in the West Bank and Gaza**

| Priority | Gaza | West Bank |
|---|---|---|
| High | Depletion of water resources<br>Deterioration of water quality<br>Shoreline and marine pollution | Depletion of water resources<br>Deterioration of water quality<br>Land degradation |
| Medium | Depletion of natural resources<br>Land degradation<br>Deterioration of nature and biodiversity | Depletion of natural resources<br>Air and noise pollution<br>Deterioration of nature and biodiversity |
| Low | Air and noise pollution<br>Landscape and aesthetic distortion<br>Threats to cultural heritage | Landscape and aesthetic distortion<br>Threats to cultural heritage |

Source: EQA

Based on the PES, a National Environmental Action Plan (NEAP) for 2000-2002 was formulated in 2000, translating the PES into concrete actions, based on strict ranking procedures. The goal is that urgent environmental problems are to be addressed first, to alleviate or solve the serious environmental problems facing Palestine. A total of 111 priority environmental projects and actions are presented in the NEAP. However, due to the prevailing constraints experienced between 2000 and 2003, a number of emergency projects have arisen, causing significant delays in the implementation of the proposed program and the projects planned in the NEAP. Under such a situation, the EQA has proposed the prioritization of environmental actions in order to select the most urgent actions to be implemented during the next three years. As a result, 33 projects have been implemented or are currently under implementation, and the remaining 78 projects are scheduled for implementation between 2004 and 2006.




Source: EQA

**Figure 7.1.1 National Projects for Conservation of the Environment**

The current (on-going) projects for conservation of the environment are focused on Gaza or are national projects. On-going projects for the West Bank account for only 12% of total projects as shown in Figure 8.1.1. On the other hand, 41% of the future projects are for the West Bank however most of these projects focus on the populated cities such as Nablus, Bethlehem, Ramallah, and Jenin.

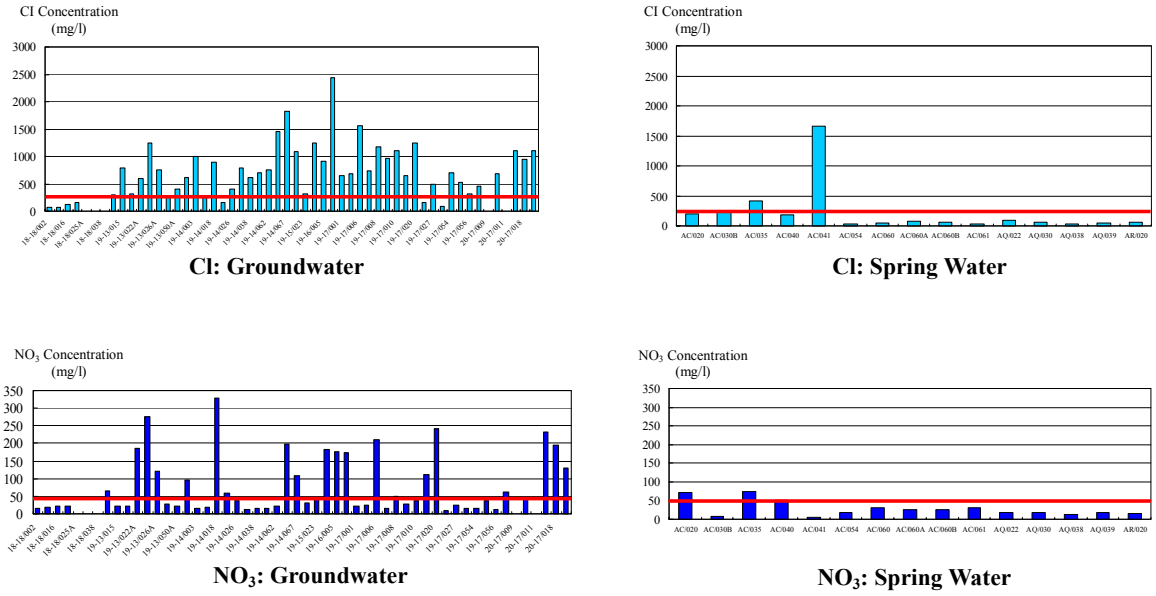
## 2. Current Environmental Constraints

### (1) Depletion of water resources

Because of the low level of rainfall and the unusable Jordan River water, the water resources of the Study area are highly dependent on groundwater and spring water. However, as the current use of the groundwater and spring water exceeds the sustainable yield, the groundwater levels are now falling. (Refer to Section 5.4 for details)

### (2) Deterioration of water quality

Although the groundwater quality is still acceptable in most places, salination has become a serious problem. Of the groundwater samples tested, 84% were above the Cl level in the Palestinian standards for drinking water, and 24% were above the $NO_3$ level as shown in following figures.

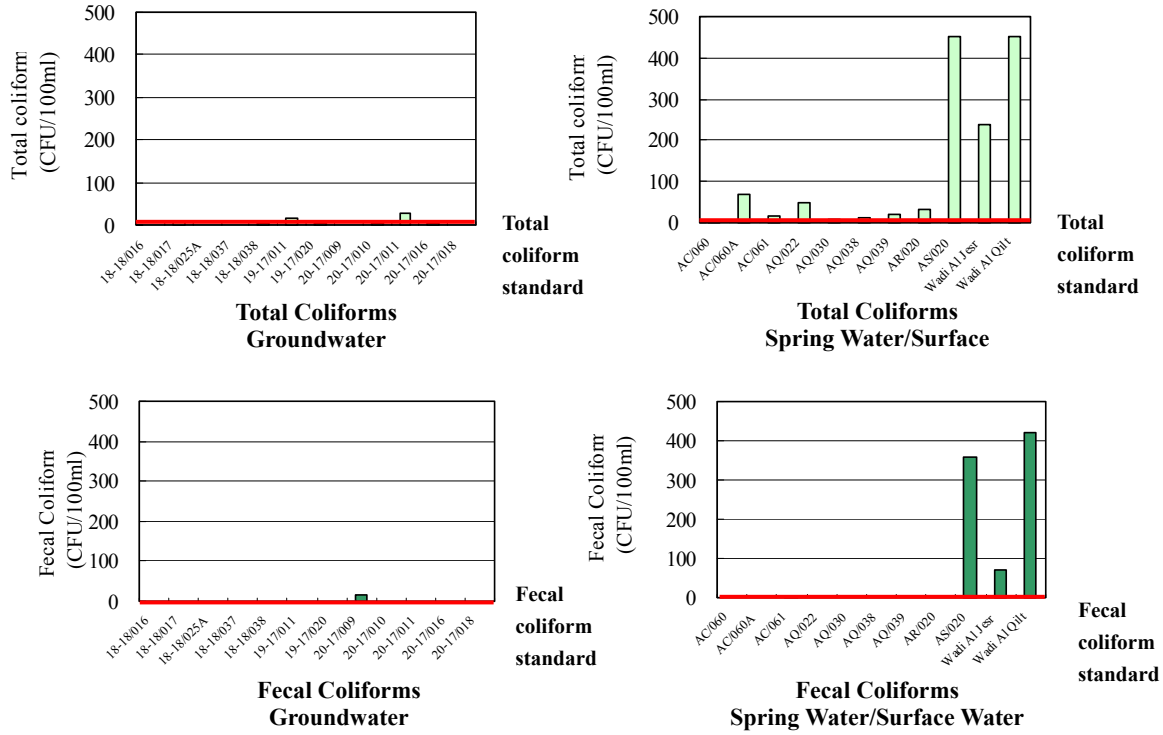



Cl standard for drinking water in the West Bank and Gaza: 250 mg/l
$NO_3$ standard for drinking water in the West Bank and Gaza: 50 mg/l
Source: PWA (2005)

**Figure 7.2.1 Cl and $NO_3$ Concentration of Groundwater and Spring Water**

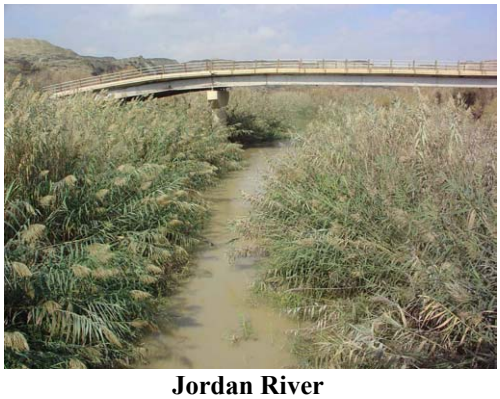
On the other hand, surface water is polluted by untreated wastewater discharges. The following figure shows the total and fecal coliforms recorded in the groundwater and spring water/surface water. The total coliform level was above the Palestinian standard for drinking water in all of the spring water samples and the fecal coliform level was above the standard in 55% of the samples.

In particular, Wadi al Qilt is seriously polluted by wastewater even though it is currently used for domestic and agricultural purposes in the downstream areas. Likewise, solid waste disposed of into Wadi al Far'a and Wadi al Qilt pose high risks for the surface water quality.




Total coliform standard for drinking water: 3 (CFU/100ml)
Fecal coliform for drinking water: 0 (CFU/100ml)
Source: PWA (2005)

**Figure 7.2.2 Total and Fecal Coliforms in Groundwater and Spring Water/Surface Water**



**Jordan River**

**Wadi al Far'a**

The volume of wastewater generated in the Study area is estimated to be approximately 5 millions $m^3$/year. All wastewater is discharged into the environment without treatment. Some wastewater is collected by vacuum cars owned by the municipalities or the Joint Councils for Services, Planning and Development (JCspd) but the collected wastewater is discharged into wadis as there are no treatment plants in the Study area.

Domestic, agro-industrial, agricultural, and medical hazardous wastes are mainly disposed into open dumping sites. The quantity of solid waste generated in 1994 is shown in the following table. There is one open dumping site in Jericho Governorate and two in the Tubas District. There is an Israeli landfill site in the Study area, but it is not used by the Palestinians due to the high charges for disposal. Solid waste is generally collected in plastic bags or metal containers by vehicles owned by the municipality or JCspd. Some of the vehicles and metal containers are not operational, and therefore they should be repaired or replaced.

**Table 7.2.1 Solid Waste in the Study Area (1994)**

| | | Jericho | Nablus (including Tubas) |
|---|---|---|---|
| Domestic | | 28ton/day | 300-333ton/day |
| | organic | 67.0% | 87.0% |
| | Paper | 7.0% | 1.5% |
| | glass | 6.0% | 0.5% |
| | plastic | 17.0% | 4.5% |
| | aluminum | 2.0% | 0% |
| | other | 1.0% | 6.5% |
| Agro-industry (plastic cover) | | 250 ton/year | N/A |
| Medical Hazardous | | 2 ton/year | N/A |
| Population(1994) | | 21,500 | 333,295 |

N/A: No available data
Source: Applied Research Institute (1997)

**Dumping site in Jericho**

**Dumping site near Wadi al Far'a**

(3) Land degradation

Groundwater contamination is associated with the risks of soil contamination. Major soil contamination sources are considered to be solid wastes, wastewater disposed of without treatment, fertilizers and pesticides. In addition, soil salinization is a serious problem as the result of excessive irrigation, water logging and poor rainfall. Although a high level of groundwater salinity is evidence of a serious level of soil salinization, there is no quantitative data available on the level of soil salinization in the area.

(4) Depletion of natural resources

The Dead Sea is a unique environment from a geomorphologic viewpoint. The Dead Sea is not only

located at the lowest elevation in the world but also has an abundance of mineral resources. However, the Dead Sea is suffering from the unsustainable exploitation of its water and mineral resources and the water level is dropping at a rate of 80 cm to 1 m per year (MoE, 2002).

(5) Air and noise pollution

The main sources of air and noise pollution are traffic and industry. As there is only a small volume of traffic and a small number of factories that generate pollution in the Study area, air and noise pollution are not serious problems at the current time. However, as the topography of the Jordan Rift Valley prevents the dispersion of the polluted air, regulations for air pollution should be considered in development planning.

(6) Deterioration of natural assets and biodiversity

The Jordan Rift Valley area supports Mediterranean savanna, with rainfall ranging from 150 mm to 300 mm, and is classified as a land dominated by xeric steppe brush and spiny dwarf shrubs. There is a comparatively large number of endemic species among the flora.

In 2000, the MoP designated the rich biodiversity of the land to be conserved as Ecologically Significant Areas. Eight Ecologically Significant Areas are located in the Study area. According the study of Ecologically Significant Areas in the West Bank Governorates (2000), 28 floral species in Jericho and the eastern slope of the West Bank are reported to be endangered or rare as shown in the following table.

**Table 7.2.2 Endangered and Rare Floral Species in the Jordan Rift Valley**

| No | Name | District | Locality | Rare | End. |
|---|---|---|---|---|---|
| 1 | Agrostemma githago | S, JD. | Fields | * | |
| 2 | Herenaria glabra + hirsuta | S, JD. | Batha | * | |
| 3 | Iris vartanii | S, JD. | Rocky Batha | | * |
| 4 | Loranthus acaciae | S, JD. | Mountains | * | |
| 5 | Raphanus raphanistrum | S, JD. | Cultivated fields | * | |
| 6 | Abutilon pannasum + other spp. | ES, JD | Hot deserts | * | |
| 7 | Balanites aegyptiaca | ES, JD | Hot deserts | * | |
| 8 | Cistanche spp. | ES, JD | Deserts and Rd sides | * | |
| 9 | Commicarpus | ES, JD | Herbs, shady crops | * | |
| 10 | Crochorus tril cular i s | ES, JD | Among irrigated crops | * | |
| 11 | Epipactis helleborim | ES, JD | Maquis | * | |
| 12 | Haloxylon persicum | ES, JD | Wadis in desert | * | |
| 13 | Hibiscus micranthus L. | ES, JD | Hot desert | * | |
| 14 | Nitaria retusa | ES, JD | Salin desert | * | |
| 15 | Seidlitzia rosmarinus | ES, JD | Hot desert | * | |
| 16 | T.systola | ES, JD | Batha | | * |
| 17 | Tamarix | ES, JD | River sides | * | |
| 18 | Zygophyllum dumosum | ES, JD | Desert, stony groung + Plateaus | * | |
| 19 | Acaia albida | JD | Hot zone = tropical | * | |
| 20 | Caesia (Senna) | JD | Wadi in hot regions | * | |
| 21 | Calotropos procera | JD | Desert | * | |
| 22 | Eclipta alba | JD | Fallow fields | * | |
| 23 | I.atrofusca | JD | Batha | | * |
| 24 | Indigofera articulata | JD | Oasios Tropical | * | |
| 25 | Moltkiopsis ciliata | JD | Sandy areas | * | |
| 26 | Oxystelma spp. | JD | Desert | * | |
| 27 | Psylliostachys Spicata | JD | Saline soil/desert | * | |
| 28 | Solenostemma spp. | JD | Desert | * | |

S: South Districts, JD: Jericho Districts, ES: Eastern Slope, End.: Endangered

In addition, millions of migratory birds pass through the Jordan Rift Valley. This area is of particular importance for large soaring birds, such as storks and birds of prey. These birds avoid sea crossings during their migration between Africa and Eurasia as they depend on land-based thermals and are thus concentrated in the narrow corridor between the Mediterranean and the desert.

**Birds Flying above the Jordan Rift Valley**

There is no systematized data available regarding fauna in the Study area. However, mammals and bird species of international conservation concern have been identified in the West Bank and Gaza, as shown in the following table. These species inhabit or pass through the Jordan Rift Valley.

**Table 7.2.3 Mammals and Bird Species of International Conservation Concern Identified in the West Bank and Gaza**

| Species | | Latin name | IUCN Category |
|---|---|---|---|
| Mammals | Bicoloured white-toothed and common white-toothed shrew | *Crocidura leucodon and C. russula* | |
| | Savi's dwarf shrew | *Suncus etruscus* | |
| | Greater mouse-eared bat | *Myotis myotis marcrocephalus* | En |
| | Indian crested porcupine | *Hystrix indica* | |
| | Badger | *Melis melis* | |
| | Ratel | *Melivora capensis* | |
| | Eurasian otter | *Lutra lutra* | Vu |
| | Wild cat | *Felis sylvestris tristrami* | |
| | Sand cat | *Felis margarita* | |
| | Hyrax | *Procavia capensis* | |
| | Mountain gazelle | *Gazella gazella* | |
| | Nubian ibex | *Capra nubiana* | En |
| Birds | Ferruginous duck | *Aythya nyroca* | |
| | Marbled teal | *Marmaronetta angustirostris* | Vu |
| | White-headed duck | *Oxyura leucocephala* | En |
| | Imperial eagle | *Aquila heliaca* | Vu |
| | Lesser kestrel | *Falco naumanni* | Vu |
| | Corncrake | *Crex crex* | Vu |

Source: UNEP (2003)

(7) Landscape and aesthetic distortion

The West Bank has a hilly landscape interspersed with agricultural plains and urban areas. The climate is classified as arid to semi-arid. Consequently, the limited level of forestation and vegetation means that the dominant features of the landscape are the topography, soils, rock formations and unnatural elements. Since ancient times, the hills cultivated with olive trees gave the West Bank landscape its distinguishing characteristics. The combination of all of these features in terms of shape, texture and color lends the Palestinian landscape its genuine character, which deserves to be protected.

The current landscape has been distorted by many different factors. In the Jordan Rift Valley area, the main causes are littering and the random dumping of waste and waste burning. The area of green spaces is decreasing, which constitutes another issue to be addressed in terms of the landscape.

(8) Threats to cultural heritage

The rich cultural heritage in the Study area should be protected. However, many sites have been destroyed and lost as a result of the development of buildings, agricultural facilities and negligence or poor maintenance. In addition, the disposal of solid waste reduces the value of a cultural heritage site as a tourist location.

## 3. Environmental Impact Assessment Regulations

The Palestine Environmental Law was enacted in 1999 and it serves as the principal guideline for environmental management. The Environmental Impact Assessment (EIA) regulations were defined under the Law.

The EIA system was revised in 2000 by the MEnA (changed to EQA in 2002). According to the revised EIA system, projects should obtain an Environmental Assessment approval through screening, and an Initial Environmental Evaluation (IEE) or EIA. The criteria of the EIA system are shown in the following table. A flow chart of the EIA procedure is illustrated in Figure 8.3.1.

**Table 7.3.1 Criteria of the EIA System**

| Category | Criteria |
|---|---|
| EIA requirements | An EIA shall be conducted for the following types of major development projects:<br>1. Power plants (including gas turbines, substations and super tension lines)<br>2. Quarries and mines<br>3. Waste water treatment plants including main sewers<br>4. Cement plants<br>5. Solid waste disposal sites<br>6. Hazardous waste disposal sites<br>7. Plants producing, storing or using hazardous substances<br>8. Airports and landing strips<br>9. Seaports, jetties and harbors<br>10. Refineries<br>11. Industrial estates<br>12. Major dams and reservoirs<br>13. Major roads<br>14. Steel mills<br>Extension to existing projects of the types listed above shall be screened for the need for an IEE or EIA study according to the procedure described in Figure 8.3.1 |
| EA screening guidelines | Based on an application for environmental approval, screening criteria are used to determine whether an IEE or an EIA is required for a project.<br>Screening will be based on the requirements of the relevant land use plans, and on whether the project is likely to:<br>1. Use a natural resource in a way that prevents other uses of that resource<br>2. Displace people or communities<br>3. Be located in or near environmentally sensitive areas such as natural reserves, wetlands, or registered archeological and cultural sites<br>4. Generate unacceptable levels of environmental impact<br>5. Create a state of public concern, or<br>6. Require further, related development activities which may cause significant environmental impacts. |

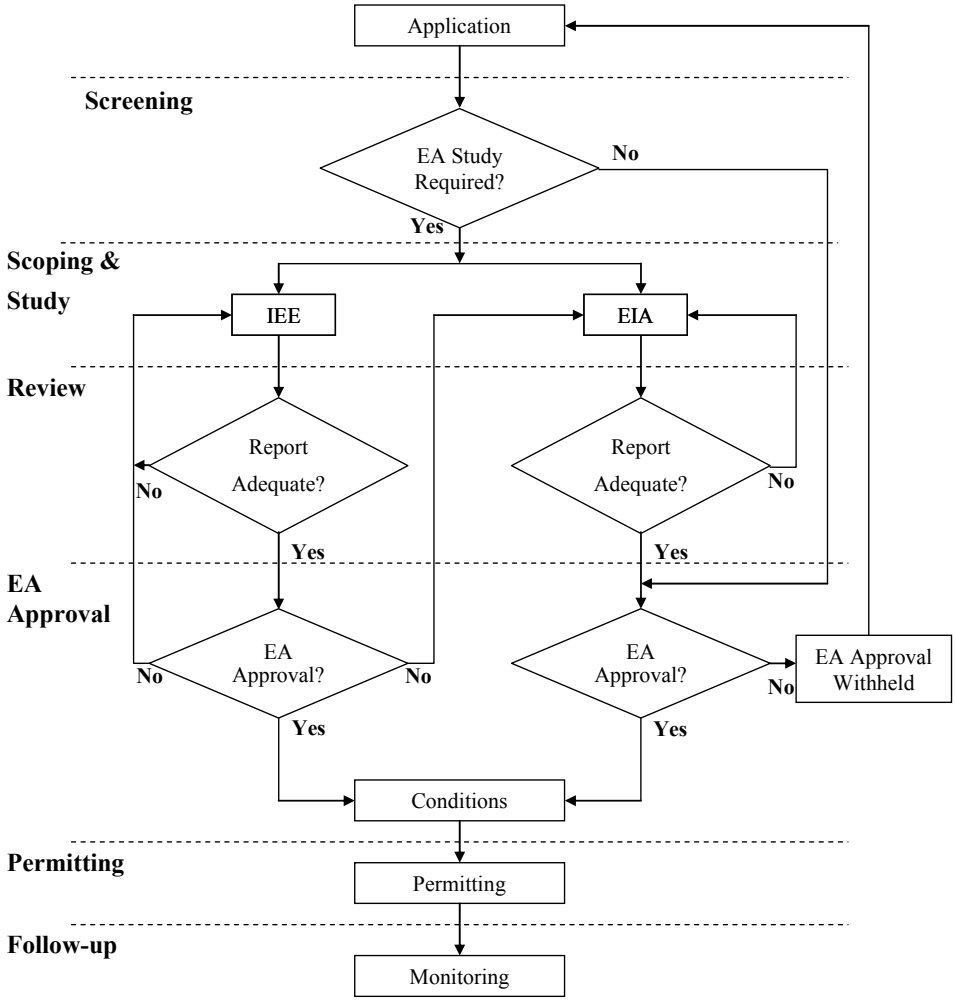



**Figure 7.3.1 EIA procedure**

Environmental ambient conditions and emission standards have not yet been established except for drinking water and treated water standards. The Palestinian government refers to the international guidelines or guidelines in neighboring countries such as Egypt or Jordan as alternative standards.

All projects proposed in this regional development plan should be screened (by review of the project description), to decide whether the project requires an EIA/IEE.