

**PALESTINIAN NATIONAL AUTHORITY**

**ENVIRONMENT QUALITY AUTHORITY**

**SOLID WASTE ENVIRONMENTAL MANIPULATION  
PROGRAMME**

**(SWEMP)**

**Public Awareness**

**Final Report**

**January 2004**

**Water & Environmental  
Development Organization  
WEDO**

**Universal Group for  
Engineering & Consulting  
UG**

## PROJECT INFORMATION

- Project Name** : Solid Waste Environmental Manipulation Program-Social Awareness
- Project Location** : The project aims to develop the social awareness about the solid waste and the official dumping which comes simultaneous with the stages of constructing Zahrat Al-Finjan official dump. The dump plans and studies were finished. The project is also related to a plan to close many open dumpsites that are spread in the project area.
- The Responsible** : Environmental Quality Authority (EQA) and the Joint Service Council (JSC).
- Aimed Categories** : The different categories of the local society in Jenin who deal with solid waste directly or indirectly including children, housewives, decision makers, industrial sector, waste workers, policemen and social leaders.
- Project Target** :  
\* Increase the awareness to the process of closing the open dumpsites and abounding them.  
\* Informing the people about Zahrat Al-Finjan dump site and the correct ways to deal with the waste.
- The Consulting** : Water and Environment Development Organization (WEDO) and Universal Group for Engineering and Consulting (UG).
- Project Duration** : From February 15, 2003 to the end of July 2003. The project duration was extended to December 2003. The final report and the awareness campaign plans were finished by January 2004.

## Table of Contents

<b>1. INTRODUCTION.....</b>	<b>4</b>
<b>2. PRESENT PRACTICES OF SOLID WASTE MANAGEMENT .....</b>	<b>4</b>
<b>3. ZAH RAT AL-FINJAN DUMPING SITE.....</b>	<b>5</b>
<b>4. OBJECTIVES OF PUBLIC AWARENESS CAMPAIGN.....</b>	<b>5</b>
<b>5. PUBLIC AWARENESS CAMPAIGN .....</b>	<b>6</b>
5.1 INTRODUCTION .....	6
5.2 TARGET GROUPS .....	6
<b>6. EXECUTED ACTIVITIES .....</b>	<b>7</b>
6.1 COORDINATION AND COMMUNICATION .....	8
6.2 FIELD VISITS .....	8
6.3 PUBLIC AWARENESS CAMPAIGN ABOUT CLOSING AND ABANDON .....	8
6.4 TRAINING AT WORK SITES .....	10
6.4.1 Training Subjects .....	11
6.4.2 Applied Training Methodology .....	11
6.4.3 Participants.....	12
6-5 MEDIA USAGE (RADIO AND TV) .....	12
6.6 SEMINARS AND LECTURES .....	14
6-7 APPLYING "CHILD TO CHILD" SCHEME .....	15
6.8 THE WORKSHOP .....	17
6.8.1 Environmental Quality Authority Speech .....	18
6.8.2 Joint Services Council Speech .....	18
6.8.3 WEDO Speech .....	19
6.8.4 Solid Waste and Society Behavior .....	19
6.8.5 Solid Waste and Environmental Health .....	19
6.8.6 Strategies of the Environmental Quality Authority.....	19
6.8.7 Management of Solid Waste in Jenin .....	19
<b>7. PUBLIC AWARENESS CAMPAIGN DESIGN.....</b>	<b>20</b>
<b>8. PUBLIC AWARENESS CAMPAIGN TEAM AND THE RESPONSIBILITIES OF EACH MEMBER .....</b>	<b>20</b>
<b>9. GENERAL EVALUATION .....</b>	<b>23</b>
<b>10. ANNEXES:.....</b>	<b>25</b>
10.1 ANNEX (1): SUMMARY OF QUESTIONNAIRE ANALYSIS RESULTS .....	25
10.2 ANNEX (2): QUESTIONNAIRE THAT WAS DISTRIBUTED TO THE POLICEMEN .....	25
10.3 ANNEX (3): SOME STICKERS AND POSTERS THAT WERE USED IN THE PUBLIC AWARENESS CAMPAIGN .....	25
10.4 ANNEX (4): STREET CLEANING CAMPAIGN .....	25
10.5 ANNEX (5): FINAL WORKSHOP DOCUMENTATION .....	25

## **The Solid Waste Environmental Project The Public Awareness**

### **1. Introduction**

The Public Awareness of Solid Waste and official dumping sites is considered one of the basic of the general awareness strategy. Two projects were proposed in the Palestinian national working plan in this issue: The first is increasing the awareness about collecting, dumping and recycling the solid wastes. The second is about the social awareness and providing information about the issues related to solid wastes like burning wastes, making fertilizers from organic waste, closing the open dump sites and constructing official dumping sites.

The social awareness project includes planning programs to aware the public about closing the open and requalifying dump sites in Jenin and Tubas so that these programs will be applied later to the rest of the Palestinian cities. These programs were designed and applied in many areas in Jenin, Yamoun, Al-Seelat Al-Hartheya, Tubas, north east Jenin villages, Arraba, Selat Al-Daher, Maythaloona, A'ja and Kabatya.

The Palestinian Authority Program is part of Zahrat Al-Finjan project intended to serve Jenin and Tubas governorates. It will cover 107 from 118 communities in Jenin governorate including Tubas. 11 villages that are not covered because these are far away from Tubas, their total population does not exceed 3000 (less than 1.5% of the governorate population producing less than 1% of the solid waste quantity). Therefore, these villages are not to be served by Zahrat Al-Finjan site.

This report summarizes all previous reports concerning different activities from public awareness programs that were applied. It explains and simplifies using tables the programs. This report is in 39 pages divided into it sections. The first is the introduction to Zahrat Al-Finjan project and the others elaborate on different activities applied within the public awareness program in addition to evaluations and recommendations to serve the application of the program in other Palestinian areas.

### **2. Present Practices of Solid Waste Management**

In rural and village areas in Palestine solid waste management takes a conventional type by disposing it through open sites. In Jenin the problem becomes an issue. Presently disposal of solid waste is done in open sites and roads sides because of the Israeli closures. Solid waste is collected inside the sewage water treatment plant located close to nearby houses. Joint Service Council for Jenin governorate allocated previously a site for disposal of all kinds of solid waste. All were disposed off together with domestic, commercial and dangerous medical solid waste. This site was closed off later on.

Regarding solid waste management at the level of Palestinian Authority there are no specific policies governing testing and disposal and control of solid waste. Dangerous

solid waste is produced by medical and health centers, pesticides, used batteries and industrial solid waste. Presently these are disposed off together with domestic and municipal solid wastes causing serious health hazards. Some health care centers did install incinerators for their solid wastes in addition to steam sterilization equipment for medical tools and injection needles. These are still insufficient to cover the overall need of the Palestinian areas.

### **3. Zahrat Al-Finjan Dumping Site**

In 1987 a general plan for the establishment of hygiene official solid waste dump sites in Palestine was developed to use dumping instead of burning or open sites for solid waste disposal. These were to be closed off and compensated by official sites using designed hygiene official central dumping site for each governorate in Palestine. Zahrat Al-Finjan site was one of these official main sites. Zahrat Al-Finjan site is 11km south of Jenin town. It can be entered through an unasphalted side road off the main Nablus-Jenin road. It covers an area of about 18.5 hectares and to be designed and operated in accordance with Engineering design criteria of municipal, industrial and commercial non-hazardous solid waste.

1. The road to site, administration buildings and fence.
2. Solid waste reception area and weighting balance.
3. Pressing and covering prior to dumping of solid waste.
4. Collecting and treatment of leachate.
5. Aeration and system of effluent gases.
6. Washing of collection truck wheels.

The site will gradually be developed and operated according to hygiene dumping techniques applied internationally. Later the site will be prequalified and prepared for continuous required operations for after leaving the site. The site is designed to be central for each Jenin, Tubas governorates and receive solid waste from all villages and urban nearby areas. To reduce cost and distribute site establishment cost the site was designed to serve the areas for 20 years.

### **4. Objectives of Public Awareness Campaign**

Closure of open dump sites and transport of solid waste to central official site need the support and cooperation of the public and the decision makers. Therefore to aware the public and those involved is considered vitally important for the success of Zahrat Al-Finjan project.

The general aim of public awareness campaign is to increase the awareness towards the closures of open dump sites all over and to requalify them. In addition the campaign is to prevent random disposal of solid waste and random burning. Acknowledging the public about Zahrat Al-Finjan site and the proper hygiene practices that should be applied in collection and disposal of solid waste. Therefore, the main objectives to be achieved through the application of the public awareness campaign as a component of the environmental solid waste management system are:

- Increasing public awareness towards the following:
  - Dangers resulting of burning and random disposal of solid waste.
  - Health dangers related to improper management of solid waste.
  - Dangers to water resources resulting of improper management of solid waste.
  - Probable danger of hazards of dangerous solid wastes and the need for proper management and environmental protection outside and inside disposal sites.
  - Solid waste reduction and transforming into fertilizer (combusting) and recycling. All these are considered important for protecting the natural resources and for environmental and health protection. The reuse of solid waste has its important image on transforming the wastes to usable matters instead of dumping or treating. The combusting and transforming of wastes to fertilizers is one of the reuse potentials.
- Increasing awareness of decision makers towards active management of solid waste, protection of closed dump sites and increasing their awareness of the use of new official sites to be requalified and used for dumping their solid wastes.
- Increasing capabilities and prequalifications of Environmental Quality Authority and other institutions of local government in all aspects of public awareness and program of awareness as part of local bundles order.
- The design of the public awareness campaign. This was achieved through evaluation and control of different activities applied.
- Support of general aim through encouraging responsibility feeling and desire to participate in keeping Palestine clean and beautiful.

## **5. Public Awareness Campaign**

### **5.1 Introduction**

The project includes public awareness towards solid waste and official dump sites as part of the program of solid waste management. This comes in parallel with establishment of Zahrat Al-Finjan site to be installed to serve Jenin and Tubas areas. Studies and design plans for the site are completed. This is to coincide with the closure of open and official sites distributed allover project area.

### **5.2 Target Groups**

For the achievement of the above objectives, all society groups and all concerned with the management of solid waste should be considered by the public awareness campaign. The following groups should be given special attention: children, housewives, decision makers, industrial sector, dustmen, police, community leaders and clergy (Muslim and Christians). Choosing these groups as target groups can be justified as follows:

- Children under 15 years age constitute more than 50% of the Palestinian population. Therefore, they are considered as the main group in the campaign. In addition, it is easier to educate children. Children are in most cases, asked to

bring solid waste into the containers and playing in solid waste containers and sites are done by children daily.

- In Palestine housewives do most of the household. Kitchens produce most of the house solid waste. Therefore, women are most worthy educating and knowledge increase regarding solid waste recycling and reduction.
- Industrial sector is the largest producer of solid waste and is the source of hazardous waste. Stone quarries and stone cutting industries are considered the largest industrial activities in Palestine. Therefore, most solid wastes are produced by these sectors.
- Decision makers and local governments are usually responsible for planning and execution solid waste projects. Hence they should be filled in with the necessary technical and legal information required for decision making in accordance with present circumstances. In addition, to the increase of their knowledge in hygiene and environmental protection, they should be educated of proper means to treat and recycle solid waste.
- Solid waste collection workers (dustmen) bare the responsibility of collecting solid wastes and hence are most exposed to solid wastes related health hazards. On the other hand there is a social problem related to the acceptance and dealing with the dustmen, which highly affect this carrier.
- Police, community leaders and clergy constitute the important groups of societies. Policemen are responsible for applying law. Community leaders and clergy can transfer knowledge to society through mosques and churches and meetings. They can concentrate on religion with regard to cleanliness and hygiene.

## **6. Executed Activities**

With reference to the letter of acceptance on 15/2/2003 the project activities started. Since then the consulting team started communication with the other teams and groups participating in the project. The inception report was presented on 8/3/2003. Despite of closures of Palestinian Territories by Israeli forces especially the north of West Bank and the frequent incursions to the project areas and other areas, the project was successfully executed in accordance with ToR and the public awareness plan. Following sections of this report explain these activities.

Plans for project execution were put through different sides formation for the purpose of awareness of target groups. The activities depended on different ways of communicating with the different groups of the society. In addition, aims that can be achieved could different form one group to another. In this respect many bundles of programmes of public awareness were prepared according to different society levels and target groups. These bundles covered areas in both Jenin and Tubas districts.

## **6.1 Coordination and Communication**

This was mainly achieved through the project coordinator of the Environmental Quality Authority, Eng. A. Abu-Thaher and the working team in the Authority office in Jenin. This includes Eng. Ahmad Shehab, Mrs. Amneh Dharaghmeh and Joint Services Council for Jenin governorate Eng. Hani Shwahneh. Other communication channels were found with municipalities and village councils in project area. In addition to the visits, telephone calls to the Environmental Quality Authority office in Ramallah and participating in many meetings were among the other activities performed.

## **6.2 Field Visits**

Many visits were made to the project sites and the related alterities by the team leader Eng. Nader Khatib and Dr. Issam Khatib, the expert in solid waste health and hygiene. Several visits to the Environmental Quality office in Jenin were made prior to any activity execution and frequently throughout execution. Discussion about the activities were carried out, difficulties that were encountered by the team and solutions to these difficulties were elaborated. Mrs. Dharaghmeh was continually present throughout all activities that were executed in addition to representative of the Joint Services Council of Jenin governorate. Meeting the technical team there and carrying out discussions about the plan of project execution took place. During the visit on 29/6/2003 to the Joint Services Council with the participation of UG associated with WEDO a discussion was carried out with the Joint Services Council manager regarding Zahrat Al-Finjan project and the different stages of the project. In addition, a meeting with the project coordinator from the Environmental Quality Authority was carried out in Ramallah where it was agreed then to arrange a workshop to fill in some gaps and shortages caused by the Israeli frequent closures.

## **6.3 Public Awareness Campaign About Closing and Abandon**

Abandon and closure of solid waste dump sites are considered major elements in the strategy of public awareness of solid waste. To fulfill the project objectives and to know the main requirements of the public awareness programs, an evaluation study was made to assist in defining the related issues regarding solid waste and to help knowing the local environment and local community. The study helped the team in:

1. Concentrating on negative improper behavior of individuals or society.
2. Defining attitude and behavior of individuals and their abilities to participate in the public awareness.
3. Specifying the target crowd through defining and specifying groups that should be behaviorally adjusted and improved.
4. Defining the activities regarding required public awareness program to be efficient and useful.

*The team carried out the following activities to complete the study:*

1. Resiting literature: Reports and database are considered valuable sources of information such as social, economic and educational standards, income and family, health standards, infrastructure, and solid waste elements, quantities, collection and disposal.
2. Meeting main individuals concerned in Jenin and Tubas district. The meetings were held with the Joint Services Council of Jenin district, Mayors of Jenin and Tubas, village councils, Environmental Quality Authority officials, and members of concerned societies. The meeting result specified priorities in solid waste management and the needs for the public awareness campaign. Shortages in the solid waste sector were also identified.
3. Participatory Rapid Appraisal (PRA) was used to specify the members of society participate in executing the program of public awareness. This technique ensured the suitability of the awareness program to the society. The PRA methodology resulted in strengthening the project team interrelations and the society in Jenin and Tubas districts. Part of the public awareness campaign was established essentially on cooperation and response by individuals in target area society. Participants were chosen in accordance with their willingness to Join in the project team and program.

The participation of local communities helped to a large extent in facilitating and consolidating cooperation between project team and local community. The PRA is considered first as a system providing related information at the right time to the decision makers about urgent matters that they are expected to face in the project. The PRA scheme offers the following advantages:

- a. Very quick in comparison with conventional methods of analysis.
- b. Work is done in the field.
- c. Emphasis on direct learning from local communities.
- d. Almost systematic method, multi knowledge and training with the necessary background of flexibility and innovation.
- e. Emphasis on insight at the right time, theories and suggestions for the better with relation to the pre-estimated end results.

When PRA was used within the content of Palestinian Authority the aims were to get acquainted with different points of view within the local communities about priority needs. This gave a view towards the strength of feeling instead of looking for a measurable value of an important problem. The issue was built on objectivity and thorough on the idea which stipulates that when people generally fell strongly about an issue they will have the desire to achieve it. This was directly bound to the main aim of the PRA method which is working for the change based on a proper background tie priorities and needs of the society.

PRA was used for two purposes, that can be connected or disconnected. First: PRA technique was used as a tool to identify the society concerns and analyze them. Second: PRA technique as a too for change. The concerns were used as a starting point for developing a program based on improving life quality or parts of it. The most successful PRA Participatory Assessment is the evaluation which adds together purposes that are compatible t widen research which in turn allow for widen

knowledge on deeper society concerns. It also contributes in policies for change that are based on understanding between society and decision makers. This was actually applied in the public awareness campaign. Detailed information was collected about the existing solid waste management in Jenin governorate. Initial plan was set for the aims of the PRA and the content in which it is to be put.

4. Questionnaires of different types were prepared to assist in collecting: as much as information as possible, health prevailing conditions, level of awareness in society regarding hazardous matter and solid waste, hazards resulting from burning solid waste, open dump sites, health hazards resulting from mismanagement of solid wastes, media approach level, specifying most affected families in addition to many other issues, Concentration was on collecting specific information such as public attitude, beliefs, behaviors, needs and priorities. The questionnaires covered random specimen of housewives, decision makers and police and religious leaders (clergy). As for solid waste collection workers (dustmen) and factory owners, their opinion was obtained through specific questions they answered through intensive discussion seminars. Two collection workers discussion groups and one separate factory owner group were conducted. Information gathered from questionnaires and discussion groups were then used to fill in the gaps, completing information and developing previous information cited from literature. Annex (2) exhibits one model of questionnaires that were distributed which is the same distributed on police force.
5. Analysis was carried out on information collected by questionnaires. The analysis was utilized to develop workshops and lectures of the public awareness campaign. T.V. and radio programs were recorded and broadcasted in which behavior and needs were concentrated on. In addition, questionnaires and their results were used in designing the campaign. Annex (1) illustrates the summary of questionnaires results that were analyzed.

Specific information from discussion groups were utilized, such as attitudes, beliefs, behavior, needs and priorities. These information were intern used to develop and sight results.

A major part of the results were exhibited to community officials and leaders, on different group who participated in the discussions and lectures and through T.V. and radio.

#### **6.4 Training at Work Sites**

The capabilities of the Environment Quality Authority team were enhanced especially Mrs. A. Dharaghmeh, the public awareness official, and the persons that were chosen from the society through training at work sites. This training was achieved through participation in preparing and designing the Public Awareness Campaign. Accordingly the trained team could then carry out activities after project completion. This will ensure sustainability and continuation. Social participation expert Mrs. Imam Radwan was contracted to carryout two training sessions, each for four days, about the scheme used in PRA. The first was set in Tubas during 2/6/2003-5/6/2003, the second in Jenin from 23/6/2003-26/6/2003. The training concentrated on defining

the solid waste problems and solutions according to specific areas and on community needs and ideas. Tools of PRA techniques and public participatory in identifying solid waste problems and evaluation and in specifying solutions of the problems. Following paragraphs give details of the training program that was followed.

#### **6.4.1 Training Subjects**

The main training subjects at work sites were:

1. Defining PRA technique.
2. Historical Background
3. Joint research particulars
4. Comparison of PRA with other techniques
5. Particulars of rapid assessment
6. Difficulties and limitation probabilities of PRA
7. Collective ways of PRA and its tools
8. Guidelines for application of PRA
9. Design tools of PRA
10. Challenges and difficulties in applying PRA at site
11. Planning, application and documentation.

#### **6.4.2 Applied Training Methodology**

##### **1. Brain Storming**

This technique was used to encourage discussion among individuals and **groups**. It helped groups and individuals in accumulating on their previous expertise and knowledge and listening to different points of view. Brain storming was important in exploring the thinking attitudes, and focused on central issues through screening.

##### **2. Individual Participation**

Every participant had the chance to express his thoughts and views, each presented to other groups using words or cards pinned on boards.

##### **3. Small Working Groups**

Each of these had a specific task related to new concepts and ideas on problem assessment and ways to tackle. This enabled participants to exchange view points and expertise. Solid waste separation to its components was part of the tasks of the small groups. The formed team enhanced the inter relations between societies and municipalities and village councils. Examples of the issues discussed are:

- What is the quantity of solid waste in your community in comparison to these disposed of by other communities and villages or cities?
- How periodically solid waste is collected?
- What are the components of solid waste?
- How the community disposes of its solid waste?

- It their a system of recycling of solid waste in the community? Describe how?
- How can we reduce solid waste production?
- What are the components that are usually reused?
- Have you visited any factory in your area? What is the quantity of solid waste it produces?
- How solid waste in factories are dealt with?

### **6.4.3 Participants**

Two training sessions were held for PRA, one in Tubas and the other in Jenin. Many participants were invited from all community sectors covering both males and females and from the Environmental Quality Authority Staff to attend the two training session 8 attended the first session and 5 attended the second. The number of attendance is small because of the Israeli closures of Jenin district. Those attended the first course were:

Environmental health unit of Health Ministry, Ministry of Education, Palestinian Women General Union, Jeinin Municipality Heath Department, Public relation in Jenin Municipality, Health Department in Arraba Municipality, Health Department in Qabatyah Municipality. Whereas those attended the second session were:

- Health Department in Jenin Municipality,
- Health Department in Yamon Council,
- Environmental Department in Yamoun Council,
- Tammon Athletic Club, and Ministry of Local Government.

### **6-5 Media Usage (Radio and TV)**

Farah and the Central are the two local Jenin Governorate TV stations covering the area in concern. Nine T.V. programs were held during the project period. One of the TV programs interviewed Eng. H. Shwahneh and A. Shehab of the Environmental Quality Authority of Jenin governorate. The head of the Health department of Jenin Municipality attended one program on behalf of Jenin Mayor in addition to the Head of the Environmental protection association in Jenin governorate. Mrs. A. Dharaghmeh, the public awareness official in Environmental Quality Authority attended the three programs. Dr. I Khatib attended all 9 programs as a consultant from UG. Table 1 illustrates the T.V. programe dates, time and channels.

In addition to the T.V. programs, ten radio programs were recorded by Farah local radio station in Jenin and was broadcasted twice. In both T.V. and radio programs Zahrat Al-Finjan project was highlighted. In addition the public awareness campaign was introduced. The programs covered also subjects in health hazards, general guidance, proper solid waste disposal covering all sectors of community, occupational safety measures of solid waste collection and the role of Islam in environmental protection. Table 2 summarizes all Farah Radio broadcasts:

**Table 1: T.V. programs broadcasted through the public awareness campaign:**

<b>T.V. Episode</b>	<b>Date of 1<sup>st</sup> Broadcast</b>	<b>Re-broadcast Date</b>	<b>T.V. Station</b>	<b>Episode Subject</b>
1 <sup>st</sup> episode	18/5/2003	19/5/2003	Farah	Introducing the public awareness campaign and its aims; Zahrat Al-Finjan solid waste disposal site; official and open dump sites. A brief on solid waste and its categories.
2 <sup>nd</sup> episode	25/5/2003	26/5/2003	Farah	Completing 1 <sup>st</sup> episode subjects.
3 <sup>rd</sup> episode	1/6/2003	2/6/2003	Farah	General guidance on dealing with solid waste disposal and reduction of solid waste and protection of public health amongst all society sectors.
4 <sup>th</sup> episode	12/6/2003	13/6/2003	Farah	Completing 2 <sup>nd</sup> episode subjects.
5 <sup>th</sup> episode	14/6/2003	15/6/2003	Farah	Occupational safety measures for dustmen and drivers of solid waste collection vehicles. Highlighting this issue came after the workshop for labour involved in solid waste collection and the low average safety measures applied by them.
6 <sup>th</sup> episode	16/6/2003	17/6/2003	Farah	Completing 5 <sup>th</sup> episode subjects.
7 <sup>th</sup> episode	29/6/2003 (live)		Central TV	Executive Manager of Joint Services Council and representative of the Environmental Quality Authority in Jenin Governorate were invited to introduce their roles in solid waste disposal management in the governorate.
8 <sup>th</sup> episode	7/7/2003	10/7/2003	Central TV	This episode invited the health department of Jenin Municipality and the deputy of Joint Services Council in Jenin governorate in addition to a representative of a concerned non public organization.

**Table 2: Broadcasted episodes through Farah Radio in Jenin**

<b>Episode No.</b>	<b>Date of 1<sup>st</sup> Broadcast</b>	<b>Re-broadcast Date</b>
1 <sup>st</sup> episode	18/5/2003	19/5/2003
2 <sup>nd</sup> episode	25/5/2003	26/5/2003
3 <sup>rd</sup> episode	1/6/2003	2/6/2003
4 <sup>th</sup> episode	12/6/2003	13/6/2003
5 <sup>th</sup> episode	14/6/2003	15/6/2003
6 <sup>th</sup> episode	20/6/2003	21/6/2003
7 <sup>th</sup> episode	26/6/2003	27/6/2003
8 <sup>th</sup> episode	3/7/2003	4/7/2003
9 <sup>th</sup> episode	10/7/2003	11/7/2003
10 <sup>th</sup> episode	17/7/2003	18/7/2003

## **6.6 Seminars and Lectures**

Seminars were held allowing for discussion of different subjects related to the project (site closure, rehabilitation of the site, burning of solid waste in open air, collection, etc.). The solid waste collection workers and dustnes were re-lectured ..... because of the limited number of attendance in first lecture due to misinforming the workers. One seminar for women was cancelled due to misconception of the fine details of the subjects that were dealt with which lead to reorganizing the lecture later on.

The seminars and lectures executed were: 3 lectures for the solid waste collection workers (2 in Jenin and 1 in Tubas), 1 lecture for policemen, 1 lecture in Jenin for teachers, 1 in Jenin for factory owners, one in Jenin for decision makers, 1 in Jenin for clergyman (religion leaders), in addition to 13 meetings for women in different towns and villages in Jenin governorate. Table 3 illustrates the lectures and the target group in addition to date and number attended.

Concentration on women was important. Those contributed in the meetings were householders, teachers, working women in community centers and women's clubs. Household women usually deal directly with solid waste and bare the responsibility of upbringing children on dealing properly with solid waste.

**Table 3: Seminars and Lectures Held in Context of the Public Campaign**

Place	Lecturer	Target Group	Date	No. Attended
Jenin	Dr. H. Odeh	Women	15/5/2003	23
Jenin Municipality	Dr. I. Khatib	Health and Solid Waste Workers	18/5/2003	15
Tubas	Dr. H. Odeh	Women	22/5/2003	32
Tubas Municipality	Dr. I. Khatib	Health and Solid Waste Workers	25/5/2003	14
Engineers Association Jenin	Dr. I. Khatib	Health and Solid Waste Workers	8/6/2003	23
Arrabeh	Dr. Y. Sadeq	Women	12/6/2003	24
Engineers Association Jenin	Dr. I. Khatib	Police	15/6/2003	27
Engineers Association Jenin	Dr. I. Khatib	Teachers	22/6/2003	34
Engineers Association Jenin	Dr. I. Khatib	Factory Owners	29/6/2003	10
The Big Mosque-Jenin	Dr. I. Khatib	Clergymen	6/7/2003	66
Jenin Municipality	Dr. I. Khatib Dr. N. Jarrar	Women	7/7/2003	10
Engineers Associate-Jenin	Dr. I. Khatib	Decision Makers	8/7/2003	16
Romaneh	Dr. I. Khatib Dr. N. Jarrar	Women	8/7/2003	24
Select Al-Harethya	Dr. I. Khatib Dr. N. Jarrar	Women	9/7/2003	20
Select Al-Thaher	Dr. I. Khatib Dr. N. Jarrar	Women	10/7/2003	23
Faqoua'	Dr. I. Khatib Dr. N. Jarrar	Women	12/7/2003	19
Al-Yamon	Dr. I. Khatib	Women	12/7/2003	95
Fahmeh	Dr. I. Khatib	Women	13/7/2003	24
Kabatya	Dr. I. Khatib	Women	13/7/2003	11
Maythalon	Dr. I. Khatib Dr. N. Jarrar	Women	9/8/2003	40
Al-Fara' Camp	Dr. I. Khatib	Women	10/8/2003	17

**6-7 Applying "Child to Child" Scheme**

50% of the Palestinian population is under 15 years of age. Children are hence looked upon as tools of change in society and not a message carrier of grownups. Therefore, children are considered an important target of the solid waste public awareness campaign. The most efficient way of educating them is by sharing them in decision making instead of using them as communicating tool. Therefore, "child to child" scheme was followed.

This scheme is one of the activities used in the campaign. The scheme means that the children is the focus of education and the grownups are for consultation only. Elder child helps the younger one in problem solving relating to environment, health and education, etc. This scheme requires active participation and total involvement of children in conceiving the health and environmental problems in their society. They need to participate in work groups to spread ideas related to environment at home, school, surroundings, and community. This will build up their self-confidence in better alternatives to solve environmental problems.

There are many schools in Jenin and Tubas districts (project area) which facilitated training "child to child" scheme by the project team. The consultant targeted a sample group of school teachers and pupils to train on this scheme. This forms the foundation for future activities in their schools and other schools in the area. The training on scheme was applied on the sample groups by scheme specialist who was contracted to train 30-35 teachers on the systematic of the scheme and training.

The training subjects included:

1. "Child to Child" scheme introduction.
2. Child's participation laden in the family.
3. Environmental and health subjects such as health personal hygiene, environmental protection, etc.
4. Information collection and sources.
5. Communicating skills.
6. How to spread health and environmental messages in places where children gather.
7. Asking society to solve problems related to the environment.

Teachers who were trained applied the "child to child" schemes in their schools under direct follow up and supervision of the expert consultant. Each teacher choosed a class and trained its pupils on how to deal with environmental problems by applying the scheme as follows:

- Identifying the problem.
- Collecting information.
- Analyzing information and discussing them.
- Applying the awareness campaign through stickers, games, reading stories, cleaning campaigns, planting trees, acting a certain personality, etc.
- Watching and assessment.
- Scheme application.

As part of the "child to child" scheme and other awareness campaign components, many activities were applied. These includes:

- Cleaning campaign in some neighborhoods and in solid waste disposal old sites. Pupils were encouraged to participate. Attachment 4 illustrates some photos taken during these campaigns in Qabatya, Yamon and Tubas.
- Planting trees campaign in closed old dumping sites.
- Video tapes were prepared and distributed containing educational materials about solid waste management public health and environmental protection.

- T-shirts were distributed during the campaigns to demonstrate the issue of environmental protection and solid waste management.

Table 4 illustrates part of the cleaning and trees planting campaign sites and dates.

**Table 4: Cleaning and Trees Planting Campaigns**

<b>Campaign No.</b>	<b>Campaign Place</b>	<b>Campaign Date</b>
1	Al-Yamon	16/8/2003
2	Ya'bad	17/8/2003
3	Qabatya	18/8/2003
4	Tobas	19/8/2003
5	Alarqah	21/9/2003
6	Alfara' Camp	9/10/2003
7	Zaboba	31/10/2003
8	Burqeen	31/10/2003
9	Altayba	31/10/2003
10	Jenin	11/12/2003
11	Alfara' Road-Tubas	26/12/2003 Planting Campaign

## 6.8 The Workshop

The workshop was held in completion of the Public Awareness Campaign for Zahrat Al-Finjan Solid Waste landfill site of Jenin district. About 58 persons attended the workshop which was held in Jenin chamber of commerce on 25/12/2003. For this purpose, the following were invited to participate the workshop. The main objective of the workshop was to raise answers for the questions of the workers of the municipalities and local government units at different sites.

- Palestinian Environmental Quality Authority of Jenin represented by Eng. Abdel Munem Shehab.
- Joint Services Council for solid waste represented by Eng. Moh. Al-Sa'adi.
- Representatives of the municipalities and local government units of Jenin district.
- Representatives of the nationals and governmental departments.
- Representatives of women and social organizations.

Table 5 illustrates the program of the workshop. Attachment 5 illustrates some photos taken during the workshop.

**Table 5: Programme of the workshop:**

<b>Time</b>	<b>Activity</b>
9:30-10:00	Registration
10:00	Workshop Opening

<b>Time</b>	<b>Activity</b>
10:00-10:15	Palestinian Environmental Quality Authority speech
10:15-10:30	Joint Services Council for Solid Waste speech
10:30-11:00	WEDO speech, Eng. Nader Al-Khatib
11:00-11:45	Solid Waste and Society behavior, Dr. Najeh Jarrar/ UG
11:45-12:00	Break
12:00-12:45	Solid Waste and Environmental Health, Dr. M. Shtayeh/ UG
13:15-13:30	Environmental Quality Authority Strategy for Solid Waste Management in Palestine Eng. A. Dharaghmeh
12:45-13:15	Existing Management Situation of Solid Waste in Jenin District, Dr. I. Khatib/ UG
13:30	Lunch

The following sections summarize the summary of workshop discussions and issues raised:

### **6.8.1 Environmental Quality Authority Speech**

Eng. Abdel Munem Shehab explained the role of Environmental Quality Authority in monitoring the projects, their environmental the impacts, and the mitigation measures applied on these projects. He pointed out that the main reason behind the environmental problems in Palestinian and especially in Jenin is the absence of public awareness. He highlighted the importance of Zahrat Al-Finjan project landfill site and the role of the public awareness campaign in its success.

### **6.8.2 Joint Services Council Speech**

Eng. Mohamad Sa'adi spoke about Zahrat Al-Finjan landfill site and the establishment of the Joint Services Council for solid waste and the reasons behind its foundation. Amongst these is Zahrat Al-Finjan landfill site and its management. He pointed out that the council provided the necessary area for the project. The council put and defined the solid waste tariff in Jenin district.

Eng. Sa'adi talked about the project design in accordance with the international standards and pointed out that an international tender was announced to ensure the application of the latest technology in this respect. He added that Zahrat Al-Finjan will help in ridding off most of open dumping sites all over Jenin and Tubas districts.

### **6.8.3 WEDO Speech**

Eng. Nader Al-Khatib talked about the reasons behind the establishment of open dumping sites in most areas of the West Bank including Jenin governorate. He pointed out to the reoccurrence of Israeli closures of Palestinian Territories hindering solid waste collection vehicles from reaching the official dumping sites. Eng. Khatib highlighted the role of the Israeli occupation in disposing off the hazardous solid waste in the West Bank.

Eng. Khatib talked about the Palestinian Environment Law, which stipulates the necessity of establishment of official central landfill sites to eliminate open dumping sites, highlighting the importance of local communities in bringing such subject and Zahrat Al-Finjan project to a success. He pointed out the importance of Zahrat Al-Finjan project and considering it a model for the other Palestinian areas.

### **6.8.4 Solid Waste and Society Behavior**

Dr. Najeh Jarra talked about the behavior, culture, relations, and organising social, political, values of beauty, educational and the role of each of these issues in stabilizing the society and its excellence. He pointed out the importance of teamwork in bringing such schemes and solid waste management to a success especially in Zahrat Al-Finjan solid waste project.

### **6.8.5 Solid Waste and Environmental Health**

Dr. Mohammad Shtayeh of Uninarsal Group talked about the principals of solid waste management and the modern strategies in this respect. He talked about the treatment of solid waste and how these concept knowledges advanced technological reviews dealing with the problem.

Dr. Shtayeh elaborated on the negative effects of solid waste on humans and public health. He also elaborated on the hazardous solid waste, agricultural and medical. He talked about the recycling and reuse of solid waste and its inclusion of health hazards and ways of prevention.

### **6.8.6 Strategies of the Environmental Quality Authority**

Mrs. Amneh Daraghmeh talked about the strategies of the Environmental Quality Authority and its role in solid waste management. During discussion, the policies of the Authority in applying and monitoring these strategies were mentioned.

### **6.8.7 Management of Solid Waste in Jenin**

Dr. Issam Khatib of Universal Group talked mainly about the results of the workshops and lectures that were held as part of the public awareness campaign. He elaborated

the results of the questionnaires that were distributed amongst the establishments, institutions and individuals. These emphasized the following solid waste disposal problems.

1. Leaving solid waste in open unsuitable areas.
2. Irregularity in solid waste collection by municipalities and local government units.
3. Burning solid waste inside and outside solid waste street containers.
4. Insufficient solid waste container availability or its non-existence in most towns and villages.
5. Carelessness in dumping agricultural solid waste in a proper manner.
6. Disposing off manure in solid waste containers causing health hazards.
7. Incorrect manner of industrial solid waste disposal.
8. The problem of solid waste that were disposed off in the wastewater treatment plant site of Jenin.

## **7. Public Awareness Campaign Design**

The design of Public Awareness Campaign was done after utilizing all activities executed in Jenin and Tubas areas. With each questionnaire and activity applied, new issues evolve regarding the behavior of solid waste management which considered important utilized in preparing the campaign. The design has considered the suggestions of engineer A. Abu Thaher the project general manager from Environmental Quality Authority. The comments are related to the first and second drafts for the public awareness campaign that were presented to the Environmental Quality Authority at early stages of the project.

The design of the campaign was presented in a separate report in order for the Environmental Quality Department to use and apply in other Palestinian territories. The design offered a summary of the results of the public awareness campaign for Jenin and Tubas areas puts the outline and general structure for the activities proposed and linked that with other sectors and groups that should be targeted and with the results to be expected on application.

## **8. Public Awareness Campaign Team and the Responsibilities of each Member**

The different activities related to the public awareness campaign for the solid waste management were applied and achieved through the participation of the experts of different expertise from WEDO and Universal Group.

### **Eng. Nader Al-Khatib**

Eng. N. Khatib is the team coordinator. He participated in planning, design of the public awareness campaign, follow up of the application, supervision, revision of reports and provision of project logistics. In addition, he provides his wide experience in environmental awareness and its application in serving the projects aims.

### **Dr. Issam Khatib**

Dr. I. Khatib is the project environmental expert for solid waste and public health and sanitation. He participated in preparing the correctional study, development and analysis of technical parts of the questionnaires. In addition, he participated in the design of the Environmental Public Awareness campaign, preparation and management of different educational days, T.V. and radio programme, workshops and report writing.

### **Dr. Mohammad Shtayeh**

Dr. Shtayeh participated in planning and designing, the Public Awareness Campaign. In addition he participated in developing, analyzing the technical aspects of the questionnaires, preparing reports, and participating in the workshop.

### **Dr. Maher Abu-Zant**

Dr. Abu-Zant analyzed the social aspect of the questionnaires. He could not participate in the seminars and in applying the campaign due to personal reasons. Therefore, Dr. Najeh Jarrar was contracted to do these, as he holds same qualifications as a social expert and has enough experience in this field. Dr. Jarrar participated in the seminars designated for women and in the workshop.

### **Eng. Ayman Thaher**

Eng. Thaher is the field coordinator for the project. He prepared for all seminars and lectures as well as the workshop. He coordinated the activities with the Environmental Quality Authority in Jenin, the municipalities and other officials and institutions. In addition to gathering and collecting information, Eng. Thaher organized the field activities such as information collection interviews, coordination with different parties, trees implanting and streets cleaning campaign.

### **Dr. Hafez Shaheen**

Dr. Shaheen is the supervisor of the water and environmental division in UG. He has the wide experience in different environmental and public health aspects. He supported the team and participated in carrying out the project activities and its completion especially in final report writing and the final design the Public Awareness campaign.

### **Eng. Ghada Al-Asmer**

Eng. Al-Asmer supported the team in general liaison. She participated in report working and in the questionnair analysis.

Table 6 summaries the technical, administrative and supporting teams and the role of each in the Public Awareness Campaign and the application of the programme in Jenin and Tubas areas.

**Table 6: Technical and Team Supporting**

<b>1. Technical/ Managerial Team</b>		
<b>Name</b>	<b>Role in Project</b>	<b>Tasks</b>
Eng. N. Al-Khatib	Project Coordinator	<ul style="list-style-type: none"> <li>▪ Participating in planning and design of public awareness campaign.</li> <li>▪ Supervision on project plan.</li> <li>▪ Participation in report writing and revision.</li> <li>▪ Follow-up of all project logistics.</li> <li>▪ Participation in educational seminars and lectures.</li> <li>▪ Supervision and regulation.</li> </ul>
Dr. I. Khatib	Solid Waste and Environmental Health Expert	<ul style="list-style-type: none"> <li>▪ Participating in the study evaluation.</li> <li>▪ Developing and analyzing the technical aspects of the questionnaires.</li> <li>▪ Participating in the design of the public awareness campaign.</li> <li>▪ Participating in the seminars and workshops.</li> <li>▪ Participating in the radio and T.V. programme.</li> <li>▪ Participating in report preparation.</li> <li>▪ Participating in the final workshops.</li> </ul>
Dr. M. Shyayeh	Environmental Health and Public Awareness Expert	<ul style="list-style-type: none"> <li>▪ Participating in the study evaluation.</li> <li>▪ Participating in planning and design of the campaign.</li> <li>▪ Developing and analyzing the technical aspects of the questionnaires.</li> <li>▪ Participating in the final workshop.</li> <li>▪ Participating in report preparation.</li> </ul>
Dr. M. Abu-Zant	Social Expert	<ul style="list-style-type: none"> <li>▪ Developing and analyzing the social aspect of the questionnaires.</li> <li>▪ Participating in Public Awareness Campaign.</li> </ul>
Dr. N. Jarrar	Social Expert	<ul style="list-style-type: none"> <li>▪ Completing tasks related to the social aspects of the project.</li> <li>▪ Participating in lecturing the women grubs.</li> <li>▪ Participating in workshops.</li> </ul>

## 2. Supporting Team

Name	Role in Project	Tasks
Eng. Ayman Thaher	Field coordinator	<ul style="list-style-type: none"> <li>▪ Organizing activities and meetings.</li> <li>▪ Coordinating activities with the Environmental Quality Authority, Municipalities and other officials.</li> <li>▪ Gathering information.</li> <li>▪ Coordinating and organizing of street cleaning campaigns.</li> <li>▪ Coordinating trees implanting.</li> <li>▪ Organizing workshops.</li> </ul>
Dr. H. Shaheen	Support, Participation and Assistance	<ul style="list-style-type: none"> <li>▪ Supervision of Water and Environmental Division in UG.</li> <li>▪ Participating in report writing and revision.</li> <li>▪ Supporting the technical and management team.</li> <li>▪ Assisting the project coordinator in project's execution and fulfillment.</li> <li>▪ Preparing the final report and designing of the Public Awareness Campaign.</li> </ul>
Eng. G. Al-Asmar	Support and Assistance	<ul style="list-style-type: none"> <li>▪ Supporting the team in general coordination.</li> <li>▪ Participating in report preparation.</li> <li>▪ Participating in questionnaire analysis.</li> </ul>

## 9. General Evaluation

- Project completion was delayed and many technical and administrative problem encountered due to the prevailing political circumstances and closures inbetween governorates especially the northern project area. Therefore, not all activities were able to be completed before end of July 2003 as planned and project time was extended until Dec. 2003. The final report was completed and the Public Awareness Campaign design was finalized in Jan. 2004.
- The evaluation study was prepared, developed and finalized during March 2003. In addition, Public Awareness Campaign was drafted. Participatory Rapid Assessment training program was completed during April and May 2003.
- Most seminars and lectures were carried out during April, May and June 2003. The "child to child" program and street cleaning campaigns in addition to trees implantation and implantation of abandon sites were applied and completed during Aug., Sept., Oct., and Nov. 2003.
- The final workshop was held in Jenin chambers of commerce and industry on 25/12/2003. The main purpose of this workshop was to answer to the questions of those working in the sites from municipalities, local government units and other institutions. This was achieved through allowing discussions for attendants and different participating groups. The workshop suggestion was raised during a meeting in the Environmental Quality Authority head office in Ramallah amongst

many other activities that were suggested to fill in some gaps within the campaign activities.

- Special T-shirts were distributed amongst participants in different areas within the project site. These shirts were to demonstrate environmental protection and solid waste management. See annex 4.
- A symbolic character (gimmick) "Clean Environment Friend" as a character used on stickers was designed as part of the awareness campaign. It is recommended that this character be used in the design of the campaign and approved by Environmental Quality Authority in all activities related to solid waste management.
- Preparation for the preliminary report and submitted on 8/3/2003. Many other reports were prepared to cover the activities during the project period. All these were progress reports. This report is considered the final report containing the summary and presentation of all activities and programs that were executed during the project period.
- The Public Awareness Campaign was prepared and designed. This was done as a separate report and submitted in its final version by the end of Jan. 2004. This comes after the submitting of the first and second drafts at early stages of the project. The campaign report took into account all the activities comments of the Environmental Quality Authority.

## **10. Annexes:**

- 10.1 Annex (1): Summary of questionnaire analysis results**
- 10.2 Annex (2): Questionnaire that was distributed to the policemen**
- 10.3 Annex (3): Some stickers and posters that were used in the Public Awareness Campaign**
- 10.4 Annex (4): Street cleaning campaign**
- 10.5 Annex (5): Final workshop documentation**

**Annex (1): Summary of questionnaire analysis results**

## **The summary of the questionnaires Analysis Results**

### ***The results of the police questionnaire:***

4) In your opinion, what are the main problems concerning solid wastes in your area?

1. The existence of industrial zones near the urban areas.
2. Dealing with the wastes incorrectly.
3. Shortage of solid waste containers, and their covering.
4. Throwing solid waste in the streets.
5. Doesn't exist.
6. Shortage in the dumping sites.
7. Diseases resulting from the wastes.
8. Uncivilized seen.
9. The containers are small.
10. The containers aren't emptied daily.
11. Children playing with the solid waste.

5) In your opinion, how can you participate in solving solid wastes problems in your area?

1. Providing necessary means and capabilities.
2. Separating the industrial zones from the urban areas.
3. Stop burning the wastes, as burning has negative effects.
4. Putting the wastes far away from the urban areas.
5. Burning the solid waste far away from the urban areas.
6. Specify certain areas to get rid of the solid wastes.
7. Developing the Public Environmental Awareness.
8. Collecting the solid waste and get rid of it by the individuals.

6) In your opinion, what are the main negative behaviors that the public do with their solid waste?

1. Burning the solid waste.
2. Throwing the solid waste in the street.
3. Putting the solid waste near the houses.
4. Putting the solid waste in the road sides and agricultural areas.
5. Children playing with the wastes.
6. The uncovered solid waste.

7) In your opinion, how can the negative behaviors concerning the solid waste be prevented?

1. By the environmental awareness.
2. Supplying the municipalities with the vehicles and the needed staff to get rid of the wastes.
3. Imposing penalties and fines to those who commit an offence.
4. Specify certain areas to get rid of the solid waste.
5. Use sign asking people not to throw wastes at certain places.

8) What are the wrong behaviors committed by solid waste collection vehicles drivers?

1. Not sterilizing the solid waste collection vehicles.
2. Dropping off, of the solid waste bags during transportation, due to the unclosed collection vehicles.
3. Driving the vehicles at high speed.
4. Not following the traffic regulations.

9) What are the negative effects resulting from the wrong behaviors of the solid waste collection vehicles drivers?

1. The containers are not completely emptied.
2. The spread of the diseases and insects.
3. The accidents resulting from the careless behaviors.
4. The dropping off the solid bags from the collection vehicles.
5. Injury hazards of the public resulting from the falling solid waste bags.

## **II. The Results of the Questionnaires Concerning Clergy and Imams**

4) In your opinions what is solid waste?

1. Waste resulting from cars rubbish and parts.
2. Wastes from houses, factories and hospitals.
3. Wastes that can't be drained through the swage network.

5) In your opinion, what are the main problems concerning solid waste in your area?

1. The existence of solid waste near villages and entrances affects the general scenery.
2. The spread of insects and rats in the area.
3. The irregularity of solid waste collection periods.
4. The non-commitment of the public for collecting and throwing the wastes in the right places.
5. There is no local control to the public.

6) In your opinion, how can you participate in solving the solid waste problems in your area?

1. The village councils should collect the solid waste and get rid of it outside the urban areas correctly.
2. Increasing the public awareness through lessons in mosques and outside mosques.
3. Praising the people of the clean areas.
4. A warning the public to the dangers of the uncontrolled solid waste.
5. Keeping the mosques clean to set an example.
6. Organizing public awareness and cleaning campaign.

7) In your opinion, what are the main negative behaviors that the public do concerning the solid waste?

1. Throwing the solid waste in the streets and beside the containers.
2. Leaving the solid waste in unsuitable bags that can be opened by animals.
3. The carelessness of the shops and restaurants' owners in dealing with solid waste.

8) In your opinion, how could we reduce or eliminate the incorrect practices towards solid waste?

1. Awareness and guidance campaign to direct the public on proper solid waste disposal.
2. Formulating laws committing public towards proper solid waste disposal practices.
3. Coordinating with the municipalities for afternoon solid waste collection periods.
4. Intensifying the health controllers on urban areas.

9) What is the role of the religion in clean issues and public health.

1. Reminding in Quranic and Hadith verses.
2. Highlighting hygiene importance in life generally.
3. Reminding that the least level of belief is to remove the waste of the path.
4. Utilizing the mosque in spreading public awareness and highlighting the dangers of solid waste improper disposal.

10) Do encourage the Imams and clergy to attend a special training course on environmental and public health protection?

1. Yes, to the role of Imams that they can direct the public through religion speeches.
2. No, because public health is a natural attitude amongst aware and unaware humans.

11) How can we reduce solid waste production?

1. Keeping in touch regarding awareness and guidance.
2. Wise reduced consumption.
3. Sorting and separation solid waste in order to utilize some for industry.
4. Recycling and reproducing some of the solid waste.

### **III. Results of the Domestic Sector Questionnaire**

27) According to your evaluation, what are the most important problems regarding solid waste in your city/village?

1. Not being disposed off far away from urban areas.
2. Causing some allergic diseases.
3. Not being able to get rid off by grinding or burning.

4. The existence of some glassware and electrical appliances.
5. Uncivilized seen for towns and villages.
6. The possibility of children getting illnesses when playing with solid waste.
7. Environmental unawareness amongst the public.
8. Insufficient number of solid waste containers, irregularity and long solid waste collection periods.
9. Occupying parts of agricultural lands.
10. Long distances to disposal sites and insufficient vehicles.
11. Non sorting of solid waste.
12. Unhygienic methods of solid waste disposals.
13. Not specifying and allocating proper disposal sites.
14. Burning wastes near by urban areas.
15. The existence of organic matter such as meat in solid waste.
16. The existence of sand, soil and disposed car bodies in solid waste.
17. The problem of sewage water in streets and roads.

28) In your opinion, what are the most important problems concerning solid waste disposal sites in your city/village?

1. Solid waste not being collected regularly.
2. Causing bad odors.
3. No problems.
4. Near by urban areas.
5. Burning shows uncivilized manner and causes air pollution.
6. Non availability of disposal sites with special standards.
7. Long distances to disposal sites.
8. Not closing the disposal sites.
9. Israeli practices and settlements hinder the disposal of solid waste into proper collection containers.
10. Insufficient collection containers and transportation vehicles.
11. Not disposing off solid waste entirely.
12. Insufficiency and overflowing of solid waste containers.
13. Usage of disposed site by near by villages.
14. Pilling up of solid waste.
15. Insects growth.
16. Scattering in streets and roads.

29) In your opinion, how can solid waste and disposal sites most important ..... be dealt with in your town/village.

1. Disposing off far away to protect animals, plants and environment.
2. Availability of solid waste grinding machines.
3. Availability of central disposal site away from urban areas.
4. The official departments baring their responsibilities towards solid waste problem.
5. Cooperation amongst individuals.
6. Maintenance periodically.
7. Bags distribution to houses for solid waste collection.
8. Modern ways in dealing with solid waste.

9. Daily solid waste collection.
  10. Using solid waste as fertilizer.
  11. Dumping far away from urban areas.
  12. Recycling and reproducing glass and metal waste.
  13. Specifying periods for solid waste collection.
- 30) In your opinion, how women can contribute in dealing with the most important solid waste and disposal sites problems?
1. Collecting solid waste in proper bags and not leaving it in streets and roads.
  2. Not disposing off solid waste by throwing from windows or leaving on door steps.
  3. Solid waste sorting.
  4. Public awareness by holding environment courses.
  5. Child awareness programs.
  6. Disposing off in specified locations.
  7. House hygiene and keeping it clean.
- 31) In your opinion, how men can contribute in dealing with the most important solid waste and disposal sites problems?
1. Assisting collection worker in getting rid of solid waste by burning them.
  2. Not being able because of being busy.
  3. Not throwing on shops' door steps.
  4. Transferring solid waste to containers.
  5. Asking officials to provide locations for solid waste.
  6. Purchasing solid waste containers for house use.
- 32) In your opinion, how Children can contribute in dealing with the most important solid waste and disposal sites problems?
1. Not throwing in streets or out of solid waste containers.
  2. Not playing with solid waste.
  3. Environmental awareness through family and schools.
- 33) In your opinion, how Mosque Imams and Christian Clergymen can contribute in dealing with the most important solid waste and disposal sites problems?
1. Highlighting such issues in Fridays and Sundays holly prayer speeches.
  2. Holding educational courses for them.
  3. Charitable collection to buy solid waste containers.
  4. Not important role since religion emphasizes hygiene by itself.
- 34) In your opinion, how officials in urban areas can contribute in dealing with the most important solid waste and disposal sites problems?
1. Not sticking stickers on walls.
  2. Increasing solid waste container numbers.
  3. This question to be asked to officials.
  4. To be responsible and to deal with this issue seriously.

5. Make sure of collection process.
6. Raising the slogan Jenin clean as an example.
7. Collection workers control and supervision.
8. Supervising awareness campaign programs.
9. Issuing strict environmental laws.

35) In your opinion, how police in urban areas can contribute in dealing with the most important solid waste and disposal sites problems?

1. T.V. awareness campaign and fining those how commit environmental offenses.
2. Control and supervision of solid waste disposal.
3. Not throwing off solid waste on streets.
4. Non availability of police force to control.

**Annex (2): Questionnaire that was distributed to the policemen**

**Annex (2): The Questionnaires Distributed to the Police**

**Public Awareness Campaign Project**  
**Questions related to police force in urban areas of Jenin Governorate**

Dear brother, you are kindly requested to assist in filling in this questionnaire to give the necessary information related to Public Awareness Campaign. This will benefit the area residents. The information given will only be used for scientific purposes only.

1. Name of urban ..... Name of information supplier .....

2. Local body: 1- Municipality 2- Village council 3- Other, specify .....

3. What in your definition of solid waste?  
.....  
.....  
.....  
.....

4. In your opinion, what are the most important, solid waste problems that people face in the urban area you live in?  
.....  
.....  
.....  
.....

5. In your opinion, how could you contribute to problem solving regarding solid waste in you urban area?  
.....  
.....  
.....  
.....

6. In your opinion, what are the more important improper practices that the public carry out regarding solid waste?  
.....  
.....  
.....  
.....

7. In your opinion, how could improper practices of the public be prevented regarding solid waste?  
.....  
.....  
.....  
.....

8. What are the improper practices that solid waste collection vehicles' drivers do?

.....  
.....  
.....  
.....

9. What are the damages resulting from the improper practices of these drivers?

.....  
.....  
.....  
.....

10. Do you encourage special training of the police force in public health and environmental protection?

1- Yes                      2- No

11. If yes, why?

.....  
.....  
.....  
.....

12. If no, why?

.....  
.....  
.....  
.....

13. Have you heard of the Palestinian Environmental Law?

1- Yes                      2- No

14. If yes, have you read it?

1- Yes                      2- No

**Annex (3): Some stickers and posters that were used in the Public Awareness Campaign**

**Annex (4): Street cleaning campaign**

**Annex (5): Final workshop documentation**

**Public Awareness Project  
Zahrat Al-Finjan Dumping Site  
Jenin and Tubas Governorates**

**Minutes of Meeting of Final Workshop**

**Forward:**

Following the Public Awareness Campaign for the above project, a workshop was held in the chamber of commerce and industry in Jenin on 25.12.2003. The aim was to answer the queries of those working on sites including municipalities and village councils through discussions between attendants and instructors.

**Those invited cover:**

1. Palestinian Environment Authority represented by Eng. Abdelmunem Shehab.
2. Solid Waste Joint Services Council – Jenin represented by Mohammad Al-Sa'di
3. Representatives of Jenin Governorate, Municipalities and Local Government Units.
4. Representatives of National and Governorate Departments.
5. Representatives of women and Social Committees.

**Workshop Programme:**

**Summary of Discussions:**

**1- Environment Quality**

Eng. Shehab highlighted the role of the Authority in monitoring environmental impact of projects and measures to mitigate it. He pointed out the non-awareness of the public and sectors regarding environment and the importance of Zahrat Al-Finjan site and the role of the campaign in achieving success of the project.

**2- Joint Service Council**

Eng. Sa'di briefed on the history of the Zahart Al-Finjan site, the establishment of the council of the solid waste and the aims of the council. These include monitoring and managing Zahart Al-Finjan site. He highlighted the role of the council in providing the necessary land parcels for the project and putting tariffs for solid waste in Jenin Governorate. He pointed out that the design of the site is in accordance with the international specification to insure highest and efficiency techniques adding that the project will help getting rid of many random dumping sites in Jenin and Tubas Governorate.

**3- WEDO**

Eng. Nader Khatib mentioned the reasons behind the existence of random dumping sites in the West Bank including Jenin Governorate. He pointed out that the reoccurrence of Israeli clousers of Palestinian Territories hindered the usage of official dumping sites.

Eng. Khatib mentioned that Palestinian Environmental law necessitates provision of main dumping sites. He stressed the role of local societies to bring success to the programme and especially to Zahrat Al-Finjan project as a model for other Palestinian areas.

#### **4. Solid Waste and Social Behaviors**

Dr. N. Jarrar talked about the culture, conduct, relations and organizing society and the role of political, beauty, educational values, and teamwork in bringing such projects to a success and making Zahrat Al-Finjan site model for this success.

#### **5. Solid Waste and Environmental Health**

Dr. Shtayeh talked about fundamentals in managing solid waste and modern directions in this regard, mentioning the ways in dealing with solving the problems of solid waste and how concepts and ideas develop with technical advancements.

Dr. Shtayeh elaborated on the negative health impacts of solid waste on humans especially of hazardous, agricultural and medical solid waste. He elaborated the recycling of solid waste highlighting the health dangerous and ways to avoid them.

#### **6. Environmental Quality Authority Strategy**

Mrs. A. Dharaghmeh talked about the department role and strategy in managing solid waste and monitoring the applications of these strategies.

#### **7. Exiting Situation of Solid Waste in Jenin Governorate**

Dr. I. Khtib talked about the seminars and lectures that were conducted within the public awareness campaign. The results of the questionnaire that were applied on individuals and sectors pointed out the following problems:

1. Dumping solid waste in open sites.
2. Irregularity in solid waste inside and outside containers.
3. Insufficient or non-availability of containers in most villages.
4. Carelessness in disposing correctly agricultural solid waste.
5. Disposition off animal manure in solid waste containers which causes health hazards.
6. Incorrect disposal of industrial solid waste.
7. The problem of solid waste which was disposal in Jenin wastewater treatment plant site.