

823 PS98



**IRC**

International Water and Sanitation Centre  
Centre International de l'eau et l'assainissement

*Library*

IRC International Water  
and Sanitation Centre  
Tel.: +31 70 30 689 80  
Fax: +31 70 35 899 64

**Evaluation of Save the Children Water and  
Sanitation/Environmental Health Programmes in  
the North and South of the West Bank and Gaza  
17 November - 16 December, 1997**

**Evaluation Report**

**The Hague,  
23 January, 1998**

823-PS98-14528

**Evaluation of Save the Children Water and Sanitation/Environmental Health Programmes in the North and South of the West Bank and Gaza, 17 November - 16 December, 1997**

**Table of content**

Executive summary	1
1. Background	2
2. The Mission	3
3. Methods used	3
4. Description of the Projects	3
4.1 ODA/DFID 09, Nablus	4
4.2 ODA/DFID 10, Qalqilia	5
4.3 ODA/DFID 12, Hebron	6
4.4 USAID, Gaza Neighbourhood Upgrading	6
5. Observations on Projects	7
5.1 Projects in the West Bank	7
5.2 Gaza Neighbourhood Upgrading Project	10
6. Conclusions	15
7. Recommendations	19

**ANNEXES**

ANNEX 1	Terms of Reference Environmental Health Evaluation Information Revised November 18, 1997	21
ANNEX 2	Persons met	26
ANNEX 3	Indicators used with success rate	33
ANNEX 4	Project Framework Outline, Nablus (ODA 09)	35
ANNEX 5	Project Framework Outline, Qalqilia (ODA 10)	37
ANNEX 6	Statistical data on achievement of physical improvement targets in the projects	39
ANNEX 7	Gaza Neighbourhood Upgrading Project Roles of actors/ partners	41
ANNEX 8	Some results of the Environmental Health Assessment and Measurement of Change of Um-AI Limon, Zeitoun, Gaza, SCF/Gaza, July 1997	42
ANNEX 9	Subsurface Drainage Technique (SDT)	43

LIBRARY IRC  
PO Box 93190, 2509 AD THE HAGUE  
Tel.: +31 70 30 689 80  
Fax: +31 70 35 899 64  
BARCODE: 14528  
LO:

823 P598

## **List of Abbreviations**

<b>CHW</b>	<b>Community Health Worker</b>
<b>GNU</b>	<b>Gaza Neighbourhood Upgrading Project</b>
<b>HE</b>	<b>Health education</b>
<b>IRC</b>	<b>IRC international Water and Sanitation Centre, the Hague, the Netherlands</b>
<b>MOH</b>	<b>Ministry of Health</b>
<b>IS</b>	<b>New Israeli Shekel</b>
<b>NGO</b>	<b>Nongovernmental organisation</b>
<b>ODA/DFID</b>	<b>Department For International Development, formerly Overseas Development Agency</b>
<b>PEA</b>	<b>Palestinian Environmental Authority</b>
<b>PHG</b>	<b>Palestinian Hydrology Group</b>
<b>PRA</b>	<b>Participatory Rapid Appraisal</b>
<b>PWA</b>	<b>Palestinian Water Authority</b>
<b>SCF</b>	<b>Save the Children</b>
<b>SDT</b>	<b>Subsurface Drainage Technique</b>
<b>TOR</b>	<b>Terms of Reference</b>
<b>UN</b>	<b>United Nations</b>
<b>UPVC</b>	<b>Ultraviolet light protected Polyvinyl Chloride</b>
<b>USAID</b>	<b>United States Agency for International Development</b>
<b>WEDO</b>	<b>Water &amp; Environmental Development Organization, Betlehem, Palestine</b>

# **Evaluation of Save the Children Water and Sanitation/Environmental Health Programmes in the North and South of the West Bank and Gaza, 17 November - 16 December, 1997**

## **Report**

### **Executive Summary**

Save the Children (SCF) invited IRC representatives and a Palestinian consultant to evaluate the SCF water and sanitation/Environmental Health programmes/projects in the West Bank and the Gaza Strip. The main method used in evaluation was a participatory evaluation based on self evaluation and directed/focused discussions, completed with field observations. In addition some 200 persons, beneficiaries, local authorities, partners, were interviewed

On the 18 November in the Jerusalem office of SCF during the first session with representatives of the Save the Children (SCF) staff, who have participated in the implementation of the projects, new indicators were developed. They were also included at this stage in the TOR of the evaluation team. The team has studied the indicators carefully and further developed them, as the time in the meeting where the indicators were first created as group exercises did not allow finalization nor proper grouping of them. The new indicators are grouped to give support to the evaluation and to enable answering the six main questions upon which the evaluation team is expected to give their opinion.

The project proposals and the later planning phase reports present the SCF approach clearly. The logical framework is, however, not followed throughout, especially the hierarchy of overall objective(s), immediate objectives, outputs, activities and inputs are somewhat mixed, or not presented exactly in line with the logical framework methodology. Judging by the outcome, the results the documents were adequate for their purpose.

Had the documents been more precise, or realistic in selection of indicators the self monitoring and the external evaluation would have been more easy.

The projects have contributed to the stated objectives. The biggest achievement of the projects lies in contribution to the empowerment of the people through the participatory approach. This has enhanced the skills needed in community based activities. Improvement in water supply, both in quality and quantity, have been achieved. Cost recovery has been addressed and inputs towards institutionalizing it have been undertaken. Environmentally acceptable solid waste collection has been promoted. However, the short duration of the projects has not enabled the projects to fully bring about the desired behavioural changes needed for sustainable improvement in environmental sanitation.

Generally, achievement of the planned outputs is good. When compared with other international development co-operation projects the delays are small. Deviations from the original plans are well justified, based on changes in the situation after project design or more detailed studies during the planning periods. Proper agreements on the changes have been made between the parties. However, some project activities have not been implemented in all the target places due to short project duration and existence of previous SCF projects and their activities (for example health education campaign to raise awareness because of indicated demand created by a previous intervention of the SCF).

Detailed conclusions are presented in chapter 6 and the recommendations in chapter 7.

The main recommendations are:

- It is recommended that the Save the Children continues to support the water supply, sanitation and environmental health sector as their approach and strategy greatly improves the

possibilities of the society, with its governing structure, to increase the coverage of infrastructure services, especially amongst the poorest segment of the society.

- The child-to-child programme should be continued and further supported and, according to possibilities, institutionalized to facilitate scaling up and sustainability of it.
- SCF should aim to have longer projects (more than just one year, perhaps three years) in order to improve the sustainability of the results. Especially components which deal with issues of attitudes and behavioural changes require long-term commitment from the agency of change. Creation of ownership requires time. Ownership is the key to sustainability.
- Cost recovery should be further encouraged and tariff structures set accordingly. Cross subsidizing can be used to address the social equity of the service provision.
- As interventions in urban environment require much larger investments than those in rural or peri-urban areas in order to have a visible impact, SCF might want to consider concentrating its activities in rural, small town and peri-urban (fringes) areas, unless the volume of resources is considerably larger than has been the case in the GNU-project.
- In rural areas the SCF should concentrate its projects in a limited geographical area in order to achieve a higher efficiency rate. A district focus can be applied if the duration of the project is long enough to enable phased implementation. Priority order in target district selection should follow the basic principles of the SCF (poverty alleviation, need/demand, gender and family orientation).
- The Conference for Organisations Working in Environmental Health was an important gathering to highlight the progress and share the experiences gained in the sector activities. Therefore this Conference should be held annually in the West Bank and the Gaza Strip, and when the political situation allows, combined and held each year on an alternating basis in the West Bank and in the Gaza Strip.

## 1. Background

Save the Children has been working in the West Bank and Gaza Strip since 1973. SCF's programme in the West Bank and Gaza Strip initially focused on large infrastructure-constitution projects such as water networks and reservoirs, sewage systems and agricultural roads. In the late 80's, however, SCF shifted its emphasis to community-based, integrated development projects. At the moment SCF is involved in a number of programmes in various sectors to improve the living conditions of the people in a balanced way.

The projects discussed in this evaluation report all focus on the water supply, environmental sanitation, and health education sector of development of the society. Their design and implementation follow the three overriding principles of SCF:

- Contribution to lasting positive changes in lives of disadvantaged children
- Recognition of the unique role of women in the lives of children
- As women and children cannot be assisted in isolation of their communities, SCF works with communities.

To develop the sector in the communities integration of the two main groups of endeavours, physical improvements by constructing infrastructure, and social capacity building through awareness raising, participatory mode of work and health education, have been selected as the strategy to achieve the purpose of the projects. The above mentioned components contribute towards an improved performance of service delivery especially for the deprived communities. The experience gained by SCF during the past years of presence in the West Bank and the Gaza Strip could be easily transferred for the benefit of the Municipalities and village councils and in this way lessen their burden when providing or facilitating service delivery for the less fortunate segments of the society.

In order to improve the performance of the projects now and in future the SCF decided to have the projects evaluated by an outside team. The emphasis of the evaluation was focused on the effectiveness of the outputs and their impact on the communities they intend to serve. The

evaluation was also used as an additional tool to discuss policies of the partner organizations and the National institutions responsible for sector provision in the West Bank and the Gaza Strip.

## **2. The Mission**

Save the Children Federation invited IRC representatives and a Palestinian consultant to evaluate the SCF water and sanitation/environmental health programmes/projects in the West Bank and the Gaza Strip. The terms of reference of the Mission is attached as ANNEX 1 of this report.

The following persons formed the Team:

- Mr. Heikki Wihuri, IRC, team leader, WSS specialist
- Ms. Tuulikki Hassinen-Ali-Azzani, IRC consultant, health education specialist
- Mr. Nader al Khatib, WEDO, environmental specialist

The SCF professional staff participated in the evaluation, each in her/his own project. Their contribution was essential for the success of the Mission. In addition Ms. Heba El-Kedwa and Ms. Hala Othman from SCF/Gaza participated in part of the West Bank project evaluation.

Mr. Mohammed Sa'aid Al Hmadi was originally nominated to the team but he could only participate in the early stage of the Mission (17-18 November 1997) due to his nomination as director general of the Palestinian Environmental Authority.

## **3. Methods used**

The main tool used in evaluation is a participatory evaluation based on self evaluation and directed/focused discussions. The next important tool in the evaluation has been interviews with the project participants: the municipal officials, committee members, recipients of support, school teachers and the children who have been active in the child-to-child programme. In total some 200 persons were interviewed. Persons met and interviewed are listed and presented in ANNEX 2. Review of the documentation of the four projects has been used as an auxiliary tool, and the written material as source of reference on the original intention, strategy and foreseen activities.

On the 18 November during the first session with representatives of the Save the Children (SCF) staff, who have participated in the implementation of the projects new indicators were developed. They were also included at this stage in the TOR of the evaluation team. The Team has studied the indicators carefully and further developed them, as the time during the meeting (where the indicators were first created as group exercises) was insufficient to allow finalization or proper grouping of them. The new indicators are grouped to give support to the evaluation and to enable answering the six main questions upon which the evaluation team is expected to give their opinion (ANNEX 3). The indicators were distributed to all the professional staff with a request to fill them in based on the personal opinion of each person. The Team summarized the results and used them in forming the opinion of the Team. The indicators presented in the project proposals of the West Bank projects were used as guiding principles only. The reason for this is discussed below in chapter 6.

Field observations were used to evaluate the quality of the physical improvements and the achievements in transforming know-how of project (construction) management and quality control. Discussions on site with the recipients of support were used to find out the level of awareness achieved by the projects.

## **4. Description of the Projects**

The projects evaluated have all been of multisectoral nature with components which address both the technical and socio-cultural aspects of improving the water supply, sanitation, environmental health and health education sector.

The components have included:

Physical improvements in:

- Drinking water networks
- Rainwater harvesting cisterns
- Groundwater well rehabilitation
- Wastewater collection
- Drainage
- On-site-sanitation (SDT)
- Solid waste collection

The socio-economic activities have included:

- Awareness raising
- Community participation promotion
- Environmental health education
- Child to child activities

The documents provided to the evaluation team describe the projects as follows:

### **ODA/DFID 09, Nablus**

(DFID=Department For International Development, UK, formerly ODA)

The Nablus project proposal expresses the overall or development objectives as being:

1. Optimizing use of available resources.
2. Reducing the occurrence of water-borne and associated diseases.
3. Improving the physical environment of urban and rural communities while introducing environmental awareness.
4. Provide the opportunity for training and exchange of skills to the Nablus Municipality through the implementation of sanitation projects.

The immediate objectives (on which the projects were designed to have a direct impact), were:

1. Improve the quality and reliability of drinking water.
2. Introduce low cost and appropriate community sewage collection systems in densely-populated urban neighbourhoods and refugee camps.
3. Demonstrate environmentally safe household sewage treatment for rural areas.
4. Raise community awareness concerning the environmental health hazards, hygiene and the prevention of water-borne and associated diseases.
5. Reduce potential health and environmental hazards related to accumulation of garbage in highly populated residential areas through promoting garbage collection campaigns and programmes which can be operated and sustained at the community level.
6. Enhance community organization and participation through garbage collection campaigns to facilitate a broader environmental awareness campaign targeted especially at women and children.
7. Partner with local organizations, charitable societies, schools, clinics and voluntary work committees, especially women's organisations, in the Northern West Bank to address and take a leading role in promoting an environmental awareness campaign which will ensure sustainability and longevity of positive effects.
8. Partner with other local, foreign NGOs, UN organizations to encourage the establishment of a network for future co-operation in the area of environmental awareness.
9. Promote posters and materials which will support the environmental awareness campaign in co-operation with other organizations, working with children to design and develop them.
10. Enhance the gender balance in decision-making, implementation and assessment of water, sanitation and environmental programmes.
11. Promote pilot community-based projects which can be replicated in other communities (partnering with Nablus Municipality to enhance its institutional capacity as an example of replicable model for working with municipalities).

The project started with a planning phase, which further developed the project. The final short description of it is stated in a Project Framework Outline. The name of the project and the above mentioned objectives are reformulated in the outline which is attached as ANNEX 4.

The new presentation of the objectives include indicators of success, means of measurement, the expected outputs and the needed inputs. They are discussed later in this report where necessary to evaluate the success of the project.

The target areas are given in the report of the design phase. They were selected following pre-set selection criteria together with the responsible authorities.

### **ODA/DFID 10, Qalqilia**

The Qalqilia-project (ODA 10) proposal, dated March 1996, is in line with that for the Hebron-project (ODA 12).

The main development objective is stated as:

To improve the environmental health status of poor rural and urban Palestinian communities, with a focus on women and children.

The intermediate objectives are given as:

1. Improve the health of target communities by integrating environmental health education with infrastructure projects,
2. Improve the quality and reliability of drinking water,
3. Introduce low cost and appropriate community sewage collection systems in densely-populated urban neighbourhoods and refugee camps,
4. Demonstrate environmentally safe household sewage treatment for rural areas,
5. Promote garbage collection campaigns and community-based sustainable systems, as well as pilot community-based projects which can be replicated in other communities,
6. Raise community awareness concerning the danger of environmental health hazards, hygiene and the prevention of water-borne and associated diseases,
7. Reduce potential health and environmental hazards related to accumulation of garbage in highly-populated residential areas through garbage collection programmes which can be operated and sustained at the community level,
8. Enhance community organization and participation through garbage collection campaigns to facilitate a broader environmental awareness campaign targeted especially at women and children,
9. Partner with local organizations, charitable societies, schools, clinics, voluntary work committees, and UN organisations in the West Bank to address and take a leading role in promoting an environmental awareness campaign which will ensure sustainability and longevity of positive effects and to establish a network for future co-operation in the area of environmental awareness,
10. Promote posters and materials which will support the environmental awareness campaign in co-operation with other organizations, in particular to work with children to design and develop them through the Child-to-Child programme,
11. Enhance gender balance in decision making, implementation and assessment of water, sanitation and environmental programmes,
12. Partner with Qalqilia and Hebron Municipalities to increase institutional development as an example of a replicable model for working with municipalities,
13. Provide needed short-term employment opportunities.

A further development, location specific for Qalqilia, was submitted to the funding agency at the end of the design phase. It was commented by the DFID in June-July 1997, and revised. A Project Framework Outline, dated 7.7.1996, was given to the evaluation team. It presents the goal, purpose, outputs and activities following the logical framework European Commission



version. It includes also objectively verifiable indicators, means of verification, and assumptions and risks. It is attached as ANNEX 5 to this report.

### ***ODA/DFID 12, Hebron***

The Hebron-project (ODA-12) proposal, dated March 1996, is common with that for the Qalqilia-project (ODA-10). No further plans were submitted to the evaluation team before 10 December when the report of the planning phase was handed over. It was produced in March 1997, and it defines more closely than the project proposal referred to above. However, it lacks a project framework outline. It is justified to assume that the logical framework type Project Framework Outline for Qalqilia is also applicable for the Hebron project, which of course would need to be adapted to fit the local conditions, which partly differs from those of Qalqilia (political tension and economic situation).

### ***USAID, Gaza Neighbourhood Upgrading***

The project proposal of the Gaza is different in its structure from the three previously described projects. However, the basic principles in it are analogous with the other three ones.

The main development objective is stated as: Upgrade community infrastructure in five neighbourhoods in Gaza Strip, thus improving environmental health status.

The objectives (immediate objectives) of the project are:

- to improve the health of target communities by integrating environmental health education with infrastructure projects
- to establish partnerships with communities in five densely-populated urban neighbourhoods in order to carry out common infrastructure on a cost-sharing basis
- to ensure the participation of women in different aspects of the project using gender analysis as a tool
- to influence government, donors' and local organizations' policies in favour of full community involvement in the urban renewal process, integrated infrastructure and environmental health education activities, and gender-sensitive approaches to these activities
- provide needed short-term employment opportunities

The major components/sub-projects are presented together with the expected outputs.

Upgrading of infrastructure:

- Sewerage: 13,000 meters branches or mains and probably an upgrading of some pumping stations
- Water networks: Approximately 11,000 meters of network upgraded or installed
- Stormwater Disposal: Approximately 4,000 meters drainage system installed or upgraded and connected to the existing network
- Parks: Upgrading two - three empty plots to neighbourhood public parks/playgrounds for children
- Environmental Health Campaigns: Community participation, gender, environmental health education 30 training sessions in health education, over 1,000 home visits targeting 8,000 - 10,000 population.
- promotion of partnership and institutional development: municipalities and village councils, Palestinian NGOs, community committees, contractors; institutional development through workshops, on-the-job training and project implementation.

The roles of the actors and partners in the GNU-project are presented in ANNEX 7.

## 5. Observations on Projects

### ***Projects in the West Bank***

An overall observation on all the West Bank projects is that they have achieved more in a short time than many other international interventions during a longer project duration. The Evaluation Team tried to find a reason for this success and concluded that the participatory approach with which the SCF has worked with the Communities, and the partnership with Municipalities and Village Councils, the Palestinian Hydrology Group (PHG) and the Palestinian Water Authority (PWA) had significantly contributed to the success. Avoidance of top-down approach has encouraged the fostering of a feeling of common interest among all parties involved. Ownership has created enthusiasm.

The following specific observations are intended to point out only those issues which could be improved. They do not undermine the good results achieved. The three projects are discussed together as they have so much in common that a separate discussion would create unnecessary duplication.

#### Project documents/proposals

The project proposals have been written following the logical framework formula. However, it is to be mentioned that the objective( bigger than the project), the purposes (on which the projects were designed to have a direct impact), the outputs, and the activities as well the indicators as expressed in the proposals (project documents) do not match completely or they are partly mixed up. Especially the indicators which measure behavioural change and the health impact are over-ambitious. It is virtually impossible to statistically verify any change in mortality or morbidity rate based on a period short as one year or even less. Changes in behaviour can also only be first measured after several years (project document calls for measurements after two years).

#### Infrastructure work

The Mission visited some locations where cisterns and Subsurface Drainage Technique (SDT) units have been constructed in the villages of Iskaka and Tamoun. Also the site where the Municipality of Nablus in co-operation with SCF have constructed sewage collection system in Rojib and installed solid waste containers and compactors were visited.

All the interviewed beneficiaries expressed their satisfaction and appreciation for the support SCF provided in improving these services. Statistics about achievement of targets in physical improvements (infrastructure works) are presented in ANNEX 6. A description of the SDT, written by Mr. Ahmad Sawalha SCF/Nablus, is attached to this report, ANNEX 9.

The Mission noticed the following:

1. Improvement in the construction supervision, especially for the cisterns and the SDT units is needed. Some sites visited showed mistakes in construction which can put in danger the reputation of the SDTs (inlet lower than outlet, outlet design poor, manholes not tight etc.). Covering the inlet and a sedimentation chamber in front of the cistern inlet would improve the quality of water and reduce need of maintenance of the cisterns.
2. The project proposals call for conducting a comprehensive environmental health awareness campaign in all the project implementation sites. This was not achieved in all locations where the infrastructure work has been implemented. The reason was reported to be other previous interventions which had provided the social extension components and the short duration of the project.
3. There was no clear plan for monitoring the maintenance of the SDT units in the rural areas.
4. There were only few examples of replication of the initiative of villagers in connection with the SDT units. Some community members interviewed explained that this was due to the supposed

higher costs of these units compared to the used infiltration cesspits and slowness in accepting new ideas amongst the target population. Knowledge of the real costs and the benefits, especially compared with the traditional cesspits, is still limited.

5. The selection criteria for receiving financial support to construct cisterns or SDTs were prepared in advance together by SCF and the PHG rather than discussing them with the local committees. While this approach was useful in some cases, it was a constraint as it sometimes required extensive discussions before coming to an agreement with local committees.
6. In Nablus and Qalqilia the SDT units are provided only to villages which have a possibility to pump water or a connection to the public water supply network system, while in Hebron they are provided only to villages where piped water systems exist. This to safeguard adequate flow of water in the system in the differing circumstances in which the projects are implemented.
7. Sometimes it had not been possible to fully implement the projects as planned due to political intervention. This is very clear especially in the Hebron drainage programme. The Municipality could not get the needed Israeli approval to completely install the sewage line identified in the project plan.
8. The standard solid waste collection containers are not fully appropriate without improving the locations where they are sited. They are too high for the children, who usually take the garbage from the home to the solid waste container. When they cannot put the garbage bag into the container they just leave it beside the container.

#### Community participation and partnership network

1. Participatory Rapid Appraisal (PRA) has been adopted by the project as a tool to identify the priority needs of the community. This has been the first step of project activities in all locations.
2. The beneficiaries were identified and chosen by the Local Committees. In all locations the Local Committees confirmed to the Evaluation Team that the needs (expressed need) for the project services were much higher than the project was able to provide. More physical improvements were requested and others which are outside the project scope. This implies that the Local Committees had worked hard to identify and fairly select the most needy beneficiaries.
3. Women's performance through separate Local Women's Committees was much better than through the mixed committees. This was especially clear in the Local Committee of Al Duwara village in the Hebron district.
4. Women's determination to participate in building their capacity and developing their communities was impressive. In one of the sites, Tamoun, when the Mission arrived at the Women's Centre, the Local Women's Committee members were attending a lecture on women's rights in the society. In this village the Local Women Committee was also co-ordinating several income generating activities.
5. Local Women's Committees had existed in some of the villages already before the initiation of SCF's present project and these Committees were observed to be capable to continue their work in the community after the completion of SCF project. In some villages Local Women Committees have been established to only fulfil the SCF project prerequisite. The Team doubts whether the Local Women Committees which were established only for the project purpose will be sustained (token women).
6. Although the communities have participated in the capital investment of the project in urban areas, their willingness to pay for the operation and maintenance costs is doubted as the beneficiaries were strongly claiming that they cannot afford to pay (an issue of priorities, not of absolute poverty). In some cases outside interference, politically toned advice that some other donors might cover 100 % of costs, had influenced this. If the O&M costs are not recovered from the users the sustainability of the project results cannot be ensured.
7. The Local Women's Committees dealing with the infrastructure work of the project lack the professional background for such work. They have to rely on their partners in the project, mainly SCF and the Municipalities, in supervising the work. This had affected the quality of the construction work (capacity to monitor). Provision of advise and suitable training might lower the workload (daily supervision) of the Project and function also as motivation builder.
8. Many of the Committees and community members who have been engaged in the activities of the project mentioned that through this project they have gained new experience, skills, and

especially self confidence. This enables them now to transfer their messages in an organized way to the decision makers which has made it possible for them to be heard.

9. The members of the Environmental Health Committees expressed that the partnership approach used by the project has been useful and the Committees have succeeded in implementing various activities. The work in the Committee has also influenced the Committee members to try to get the concept adopted within their institutions and Ministries in order to enhance Environmental Health Awareness. This concerns especially the representatives of the Ministries of Youth, Education, Health and Agriculture. For example the Ministry of Education has now a plan to implement Environmental Health Projects at the national level.

10. Children's participation through the Child-to-Child programme, and their recognition as partners in the health education programme has been remarkable. They were willing to participate in the programme outside the school hours to prepare songs, plays and posters/stickers, and to distribute them to other children and also to the adults.

#### Environmental awareness raising

One of the places visited by the Mission was Al Maari Boys' School (298 students) which is one of the ten schools in Nablus district where the Child-to-Child programme was implemented. Thirty students were actively involved in the implementation of this programme. The Child to Child programme carried out in this school has influenced students in several ways. It drew attention of students to the importance of hygiene in the school and the health risks caused by garbage. The students, with support of the SCF staff and the teachers, managed to clean and repair the drinking water supply facilities and the school toilets. In addition they initiated a campaign in co-operation with the Nablus Municipality. The campaign mainly highlighted the following topics:

- \* cleaning of solid waste from the streets
- \* recycling of solid waste
- \* food inspection
- \* inspection of the validity of the processed food dates in the shops

Mass media events like a programme series on local TV was also used by the Child to Child programme to spread the messages to a wider public.

The mission visited Al Qora neighbourhood in Qalqilia, discussed with the neighbourhood committee and interviewed the health workers who had implemented a health education campaign there. The campaign had included home visits with personal discussions and environmental health lectures during "medical days". Both, the committee members and the health workers shared the opinion that the messages were well received and that the impact of the campaign had been positive, improved the cleanliness of the neighbourhood.

In Hebron the Mission visited Al Hajiriya Basic School for Girls and Al Khansa Basic School for Girls. In these schools the Mission observed demonstrations of Child-to-Child programme activities. The children had selected traffic accidents and smoking habits as demonstration topics directed to parents, teaching staff and other students.

1. In all schools visited the performance of the students and their commitment to continue the programme was impressive. The support of the teachers was also evident and they expressed their interest to see such an approach incorporated as an official part of the school curriculum.
2. The discussions with the children revealed that the Child-to-Child programme has helped them in building self confidence and to learn to transfer messages to adults. The observation on the performances confirmed that children enjoyed the activities and acting in front of the other students and adults.
3. Environmental Health Education has influenced the Local Committees and the children engaged in Child to Child programme to also address other health topics than those related to water and sanitation. Smoking, drugs, and traffic accidents are some of the covered other health topics.
4. The project has produced a variety of health education material like posters, stickers, games, story books etc. All the material produced and distributed are products of children's contests,

thus being based on the local culture and experience. The material produced has been distributed throughout the community.

5. Some of the adults did not accept the idea that children are participating in an environmental cleaning campaign. Some of the mothers interviewed, especially in Hebron city, expressed that they did not like children participating in the cleaning campaign and going to the risky places. Some of the male community members pointed out that this kind of work should be done by adults.

6. The discussions with the beneficiaries in the rural villages revealed that there is lack of awareness among the beneficiaries on the linkage between health and appropriate disposal of waste.

7. All Local Committee members and beneficiaries interviewed by the Evaluation Team expressed that the short time span (one year) of the project especially in West Bank, was not enough to achieve the expected benefits of the project. The short time span of the project has limited their capacity for the proper planning and implementation the awareness campaigns.

#### Monitoring of the project activities

1. The reporting system of the project needs further development and harmonizing between the projects where possible. The reporting was found not to be systematic. It is on quarterly and semi-annual basis, or after a planning phase and then at the end, but the information given is scattered, and does not present an action plan for the next monitoring period or a reference to achievements of planned activities of the reported period with explanations of reasons for deviation from the plans. Especially if the future projects have a duration of several years, it is important to create a reporting system which helps in self-monitoring and managing the project efficiently.

#### ***Gaza Neighbourhood Upgrading Project***

The nature of the Gaza Neighbourhood Upgrading Project differs from the project in the West Bank as it is solely an urban project. The SCF participatory approach has here also proven to be effective as the neighbourhood has been understood to be a limited geographical vicinity enabling creation of a feeling of a community inside a bigger entity.

#### General

1. From first to second of December, 1997 the Mission participated in the first conference for organizations working in environmental health sector. The Mission contributed for the presentations and the working groups in the conference. The conference was recognised by the participants as a good step forwards in bringing together governmental, nongovernmental and international organizations working in environmental health and related projects. The main topics of the conference were linked with infrastructure and environmental health activities. SCF staff in co-operation with their partners and a number of other organisations working in environmental health presented their experiences in integrating the infrastructure projects with the environmental health education and the progress they achieved. This represents a strong approach. The conference audience expressed their interest in it and support towards this approach.

2. The SCF has contracted a local Consultant to prepare a booklet on the experience gained in the GNU project. The focus in the booklet relates especially to the methodology (integration of infrastructure and health education, community participation, health education and Child to Child approach) applied in the GNU project and the involvement of all community members: men, women and children.

#### Project proposal

The project proposal is written following a different format than the three discussed above. It is the type preferred by the funding agency, the USAID. It requires action plans to support it as it provides an outline only. The targets and their timing must be defined more closely in the action plans. The indicators are created separately.

The project proposal is a document on which the work can be based on.

#### Infrastructure work

1. The Evaluation Team noticed that there is a delay in fulfilment of part of the Gaza Municipality commitment to the project. This has been adversely affecting the beneficiaries of the project. In Um Al-Limon neighbourhood the drainage system installed by SCF project cannot be used unless the Municipality paves the streets. Many people in Um-Al Limon are not aware in this fact yet, and they will be depressed to find out that they will still suffer from the stormwater problems this year. In addition, the stormwater might find its way to the drainage system installed by SCF, especially if some people open the manhole covers. If this happens, a lot of sand and solid waste will get to the system and block the pipes or reduce their future capacity. It will be a very difficult and expensive job to clean the system properly. In Idjdaidah SCF has completed its projects successfully. However, the Municipality had not yet started to implement its share of the project which is to lay asphalt on the street. This has led to frustration among the Local Committee members who also feel they are losing their credibility among the people in the neighbourhood. In addition, this delay is adversely affecting the feeling of ownership of the project among the beneficiaries. Finally, the delays may even discredit the whole Gaza Neighbourhood Upgrading Project. The SCF has repeatedly reminded the Municipality of the above problems. Also USAID and the World Bank have been contacted on this issue.

2. After the approval of the project funding by the USAID, the project locations were changed in co-operation with the Municipality of Gaza and agreement with the USAID. In Rafah the change of neighbourhood was rejected by SCF because of low population density and insufficient poverty levels at the Siamat neighbourhood proposed by the Municipality. It was not possible to locate another neighbourhood in Rafah because of unclear European Union commitments to Rafah. Manshiya in Daraj was dropped because it was more a commercial than a residential area.

The following neighbourhoods were selected by the Municipalities of Gaza and Jabalia to replace the originally planned areas:

- \* Um Al Limon/Zeitoun
- \* Al Dahsan/Zeitoun
- \* Ijdaidah
- \* Abad-Arrahman

3. The targets numbers in meters of installed pipes is smaller than the original plan. This was caused partly by the much larger diameter of the stormwater line installed in Um Al Limon (more detailed design proved it necessary) and partly to delays in contributions of the municipality (discussed above, bullet 1)

4. The construction work of sewage system carried out by the GNU-project in Gaza has demolished and eliminated many of the existing wastewater infiltration beds used before. This activity will decrease the risks of groundwater pollution in Gaza as a result of sewage infiltration.

5. The sewage system in Jabalia has been designed by a private consulting firm under the guidance of the Municipality and SCF. Apart from providing some income generation to the private sector, this process of design has Added to the experience of Municipal engineers in such work.

6. The project had enhanced the confidence in the Municipality of Jabalia in improving the services to the community there.

7. The project has introduced new technologies in the water systems. The use of UPVC pipes which are known to be more sustainable than the steel pipes in the corrosive soils encountered in Gaza is welcomed. However, the Team feels there should be more awareness among the users and beneficiaries about the reasons behind the introduction of such new materials. The Local Committee agreed with the use of UPCV pipes but the people on the streets still are dubious and complained to the Team.

### Community participation

The Team noticed that the work of SCF carried out in the GNU-project is much appreciated by the people in the various neighbourhoods where the programme has been implemented. Expressions of this were repeated several times during the meetings. People felt that they were recognized after long years of negligence when they received the service improvements. Community participation has received special emphasis during the whole project implementation through several meetings.

### Local Committees

1. It was found that due to the cultural barriers it was not possible to create mixed committees in the Gaza Strip. For this reason separate committees for men and women were established. The communication tools between these two committees were based on the exchange letters, separate meetings with SCF staff and sometimes through the married couples in the two committees.
2. In some of the locations the Committees were already existing while in some others they were established especially for the purpose of the project. The Mission has a doubt as to whether the newly established committees, especially those of women, will continue to act after the project ceases due to the lack of motivation, guidance and financial support. Some of the Local Women's Committees, for example, the one in Jabalia, were found to lack various management skills needed to develop their function as a Committee.
3. The project had created some job opportunities for unskilled labour in the neighbourhoods where the infrastructure work was carried out. Unfortunately most of the manpower, especially skilled labour, for the contractors came from the other neighbourhoods in the Gaza Strip.
4. The project period of two years is too short. All the delays, due to the unstable political circumstances, have effected the implementation leaving too little time for the environmental health awareness campaigns. Original phasing of the activities could not be followed. This can affect the sustainability.

### Environmental health awareness and Child to Child approach

In Gaza GNU project the health education activities are carried out through the Community Health Workers (CHW) and two Municipality health workers who were trained to implement the health education by a six step process. This process includes analysis (PRA), design, pre-testing, implementation and monitoring and re-planning. In addition, the Child-to-Child approach is also carried out in some schools in the project locations.

It is to be noted, that health education activities started in Um-AI Limon and AI Dahsan by April-September 1996 while in Ijdaidahdah and Abad-AI Rahman the activities started in May 1997. This is an important factor to be taken into consideration while assessing the achievement of health education in different locations. Thus, during a rather short period (6 months - 18 months) as intensive health education programme has been carried out in all four neighbourhoods. For example, in AI Zeitoun neighbourhood 2900 home visits were carried out by CHWs. In Ijdaidah this was 1400 visits and in Abad AI Rahman 600 visits.

### Community Health Workers

The job description for CHW's is defined as following:

- \* participation in evaluation of the needs (questionnaires and Participatory Rapid Appraisal (PRA)
- \* participation in planning for health education activities,
- \* implementing activities like home visits, workshops for men, women and children,
- \* follow-up and evaluation of the activities, co-ordination with schools to carry out joint activities through the Child-to-Child programme,
- \* co-ordination with schools to carry out joint activities through the Child-to-Child programme

\* **work and co-ordination with health institutions working in the neighbourhoods like clinics and mosques.**

1. In general the motivation and commitment among the CHW's is high. They appreciate the new experience and skills gained through the project. They have learned systematic working methods, like preparing monthly plans, recording home visits and preparing reports. They are also willing to learn new knowledge and skills. A linkage between the CHW's and Gaza Municipality Health Workers is established. Their job description is similar with CHW's but it also include supervisory tasks. In addition, CHW's were found to work in co-operation with the Local Women's Committees which have facilitated health education work by providing the homes of the members as places for meetings and workshops. They also received participants for the sessions.
2. During the Mission the sustainability of the health education was extensively discussed in meetings with CHW's, Local Committee members and the representatives of various Environmental Organizations. The Mission found out that in one of the locations, Al Zeitoun, the CHW's were not willing to continue the work on voluntary basis. They told the Team that their families did not allow them to work any more without financial support. Their dropping out will influence the continuation and sustainability of health education programme. However, as the municipal health workers who co-operated with SCF-project now have learned a large variety of participatory, innovative approaches through the GNU-project, their work will be more effective than before.
3. On the other hand it was also noticed that in the Municipality of Jabalia the Project promoted awareness of the importance of having strong Health Education Department to continue and follow-up the health education programmes. As result, three Community Health Workers had been employed to work full time for the Municipality. These women had been selected from the Local Committee which was engaged in the awareness campaign in the Abd-Al Rahman neighbourhood project in Jabalia. In addition to providing employment opportunities to these three women, it will ensure the transfer of the experience gained in this project to the Municipality and to use this experience in other projects. This will ensure the institutionalization and sustainability of such activities.
4. In some neighbourhoods the communities have contributed (20 - 50 Shekels per family) to the implementation of the health education programme. However, in the discussions with the community members the continuation of their financial support to the health education programme was found to be questionable. Some of the community members emphasised that the work of the CHWs is voluntary and they are doing this out of their own sense of duty.

#### Content of Health Education

1. The content of health education was found to be focused and specific. It comprise of seven messages which relate to solid waste management, protection of sewer lines, water conservation, and personal hygiene like baby washing, wearing shoes and hand washing. It was noticed that the health programme has improved and developed the knowledge among the various Committee and community members about the environmental problems and methods of solving these problems.
2. Local Women's Committee members and housewives interviewed confirmed that the messages have been useful, however, some of them indicated that they had been following the practices before this health education programme. Women said that for a long period they have suffered a lot of negligence and there had been no education for them. Interpersonal methods (home visits, group discussions) used in health education implementation seem to have been very relevant and women have liked this type of participatory communication.
3. However, some of the Local Women's Committee members interviewed said that full benefits of the health education cannot be achieved because many factors in the physical environment are not supportive. This relates especially to dusty roads. Street paving was repeatedly pointed out as one of the first priorities of the communities after the sewerage and water systems have been constructed.
4. The need for continuation of health education was expressed in all the meetings with Local Women's Committee members. For example the members of Local Women's Committee in Idjdaidah said that the programme might not continue with the same intensity but they will



continue the activities on weekly or monthly basis. They intend to have a Mother-to-Mother programme.

5. There are now twelve TV spots on various infrastructure and health issues designed together by SCF, Metcalf and Eddie (USAID contractor working in Gaza), PWA and UNDP that are now being shown on Palestinian TV. There is also a Child to Child video which is being distributed for presentation. These are positive indicators of co-operation amongst actors. They will promote the purpose of the project as well as support the sustainability of its results.

In order to assess the environmental health status of the neighbourhood and to measure project impact after implementation of a comprehensive intervention programme, the project, in co-operation with the Gaza Health Services Research Centre, has carried out a Baseline Survey in Um Al-Limon neighbourhood. The sample of the survey comprise 200 households selected on stratified cluster sample basis. Most of the informants (191) were women. Data collection was done by the Community Health Workers who were trained in data collection.

#### Child-to-Child programme

Child-to-Child activities implemented in Gaza neighbourhoods consist of workshops, home visits, health messages, the design of materials, plays, clean up campaigns, summer camps and festivals in co-operation with the Early Childhood Development Programme (ECD). Child to Child activities started in Al Zeitoun in September 1996 and in Ijdaidah and Abd-Al-Rahman in July 1997.

#### Children's experience

1. The interviews with the children who participated in the Child-to-Child programme revealed that their participation has developed their knowledge about the environment and has resulted in improving their performance in the school lessons, especially related to the environment. In addition, they said that this programme developed their capacity to express and convey their demands properly.

2. It was also found that the programme has influenced boys and girls, to play and work together as a group. In the beginning this was found to be difficult in most of the locations where the programme was implemented. The programme has also influenced the children from different community sectors to work together and break the psychological barriers. This was said by the children themselves during the interviews. This came out especially during the children's interviews in Jabalia where a small gypsy community is living.

#### Parents' experience

1. In general all the Local Women's Committee members interviewed were supportive of the Child-to-Child approach. They pointed out that this approach has also created a new Mother to Mother approach. However, some of the women interviewed suggested that the interest and participation of their children in Child to Child programme has adversely affected children's performance in the school. The positive or the negative impact on the children depends on the use of their time and how their parents guide the use of their time.

#### Teachers experience

1. The Mission interviewed the teachers in Al-Zeitoun Primary School. Most of the teachers interviewed were supportive of the Child-to-Child approach and want this approach to be continued. They suggested that this approach will create independent students who will guide younger students and who will also take care of the problems in their surrounding environment. They confirmed that the approach is not reducing children's performance in the school but enhancing them to learn more.

2. Teachers also pointed out some of the obstacles in implementing this approach. For many of the teachers this approach means an additional workload. The heavy workload of the schools (two or three shifts a day) and the high number of weekly teaching hours were mentioned as some of the obstacles to implementing the programme.

3. The teachers proposed that this approach should be a part of the school curriculum or some special time should be allocated for its implementation. As the number of children in the classrooms is high (often more than 50), this approach would facilitate the work of the teachers. Children participating in the Child-to-Child activities could act as group leaders in the classroom group sessions.

## **6. Conclusions (The West Bank and Gaza)**

### ***Project documents/proposals***

The project proposals and the later planning phase reports present the SCF approach clearly. The logical framework is, however, not followed throughout, especially the structure of overall objective(s), immediate objectives, outputs, activities and inputs are somewhat mixed, or presented in a manner inconsistent with the logical Framework methodology. Judging by the outcome, the results of the projects, the purpose of the documents has, however, been served.

Had the documents been more precise, or realistic in selection of indicators, the self monitoring and the external evaluation would have been much more easy.

### ***Effectiveness of the Infrastructure work***

Evaluation of the effectiveness of the infrastructure work carried out in the projects must partly be judged in the context of the other components: awareness raising, health education, community participation and influencing the policies, as some of the constructed facilities had not yet been taken into use. There has been delays in operating the drainage lines constructed by SCF due to delay by the Municipality to pave the streets where the drainage lines have been installed in Gaza, and underestimates on pipe diameter for drainage in Hebron, due to political interference, some of the cisterns had not received any water yet because of delayed rains, and some SDTs were not taken into use by their owners due to some missing parts and so on.

Where the facilities were in use the overwhelming majority of their users expressed their satisfaction in the work done. Their understanding of the benefits appeared also be acceptable. However, only few self initiated spin-off activities to construct new SDTs in Hebron area (Tarqumia) were reported. This could be interpreted to indicate remaining mistrust towards the overall benefits of the system. Research results were not available on the environmental impact of the SDTs, however, observations in the field point towards improvement (Hebron area, two years old SDT working well. Discernible improvement in olive tree growth and production).

The Gaza water, sewage and drainage structures are threatened by the delays in the finalising works (paving of streets) which are outside the control possibilities of the GNU-project. When the rains start the pipes may become filled with sand and solid waste. Cleaning of them is very difficult. The inhabitants do not fully realize the real reason for the situation and may lose faith in the improvements and the SCF activities.

### **Nablus:**

- Water pipes have improved situation considerably and the impact of them on the lives of the target population is very positive. Results are appreciated by the users.
- Rehabilitation of springs and a groundwater well have increased the amount of available water and thus improved life in the impact area
- Solid waste compactors help the Municipality by reducing the volume of garbage (savings in transport costs)
- Sewer lines have improved the lives of the target population. Threats to sustainability of the service exist due to lack of an O&M-component.
- Technology choice in urban and in rural areas is very traditional. However, emphasis had been given to the use of local materials and labour.

- General: sustainability enhanced through cost sharing.

#### Qalqilia:

- Water pipe networks in urban area are well designed, and construction work properly done. Improvement was clearly noted by the users as interruptions in service had decreased and the pressure level increased.
- Sewage lines were connected to the main network and their users were satisfied. Environment had improved, and health risks decreased (no sewage pools).
- SDTs in rural areas were mostly started to operate. Due to the short time, their impact was not yet visible.
- Solid waste management is included only partly in the project. The collection had improved through provision of containers. They were taken into use by the target population, which is an indicator of acceptance.
- General: sustainability is enhanced through cost sharing.

#### Hebron:

- Old Town sewage network rehabilitation/construction appears to be done well. Its impact on the lives of the inhabitants and the shop keepers is very positive. All randomly selected interviewees described the huge improvement in their environment, which was caused by the new sewers. Observations confirmed the statements.
- Old Town drainage could not be improved due to delay in obtaining of the needed permit. This will cause further flooding of the streets in the low parts of the Old Town.
- Solid waste collection bins will be a problem. They are placed high on the walls, out of reach of children. Impact of the solid waste collection improvement is limited.
- Rural Hebron area had received SDTs and cisterns for rainwater harvesting. Their impact will be very positive. However, the amount (number) which the project had been able to contribute is very limited compared with the expressed need. The cisterns were of two main types, Roman and "modern". Selection of the type was based on geology. Self-help in construction will enhance their sustainability.
- Tarqumia and Beit Ula water networks have been rehabilitated. This has reduced leakage from the distribution systems and saved repair costs for the Municipality. In addition more water is now available for the consumers.

#### Gaza:

- Sewer lines for which the GNU-project had contributed were constructed in low-income areas. The finishing touch, paving of the streets was delayed in Um Al Limon and Ijdaida. Their impact remains to be seen.

#### ***Effectiveness of health education & awareness raising***

The Mission considers environmental health education programme and the Child-to-Child approach successful and well received by the communities in all the neighbourhoods. Therefore, it should be continued and further expanded.

The projects have achieved excellent results in some of the locations in community participation and environmental health education in a very short time compared to many similar international projects which have needed much more time to achieve same results. One of the contributing factors for this is that strategy of the projects has been socially oriented. However the time allocated for implementation of the health education and awareness raising programme has been too short and this could have a negative impact on the progress achieved.

The GNU-project had given more attention to the health education programme than the West Bank projects. The West Bank project started with the Child-to-Child approach as its basis.

The Child to Child approach was well received by the students and teachers in the schools. However, due to the time constraint of the educational programme, further contact with the Ministry of Education would be needed either to include this programme as part of the Education Curriculum or facilitate the teachers education load to carry out this programme in the schools.

The approach of the Child-to-Child gave rise to an idea to create a similar Women-to-Women approach to deliver messages and change practices of the housewives in their daily activities. This was brought to the attention of the Evaluation Team by one of the women's committees in Gaza.

The Project created new Women's Committees where no suitable existing ones could be found. The Team fears that these committees might disappear or cease to act if left without further support. Therefore, some support, mental or if possible also material, should be given to these committees to further strengthen them.

The findings of the Baseline Survey in Um Al-Limon neighbourhood carried out by the GNU-project and the Gaza Health Services Research Centre suggest that the infrastructure improvements and the health education measures have influenced the occurrence of diseases among the population, in particularly diarrhoea, parasitic infestation and skin disease. Some of the major findings of the survey are presented in ANNEX 8. However, these achievements cannot be explained as direct benefits of this project only as various other development projects have taken place in Gaza city.

The results of the survey were surprising even to the co-ordinators who went back to the field to check the situation. Their field visit revealed some underlying causes for success. The change in children's health situation was found to exceed that of the mothers. Proper assessment of the relevant problems and the Child-to-Child approach are assumed to be the underlying factors of the success of the health education programme.

The Evaluation team would like to note that data collection of the survey was done by the same persons who have been engaged in implementation of the health education.

The Mission conducted several home visits in Al Zeitoun, Ijdaidah and Jabalia neighbourhoods. Household hygiene in the houses visited was observed to be good. However, garbage management outside the houses needs continuous efforts. There were no containers outside many of the houses and the bags, part of them inappropriately tied, were left on the streets. Some of the women interviewed also pointed out some problems in the garbage collection and the performance of the Municipality workers. The whole garbage management chain under the Gaza Municipality from the house to the dumping place needs further improvements.

The Mission also observed that the garbage disposal from the house is handled by the children. Awareness among the inhabitants of Al Zeitoun about the possible health risks to children may not be sufficient.

### ***Effectiveness of Integration between health and infrastructure components***

The integration of the two main lines of the projects, physical improvements production and social work have been complementary to each other. Social work means in this connection health education, awareness raising, promotion of participation, and partnership building. The underlying principle of working in a participatory way, and in partnership with other actors, require continuous vigilance in integrating the two above mentioned lines. Both internal and external co-ordination is essential for success in obtaining sustainability. Internal, meaning the various professional team members of the SCF in each office/project and external, meaning relations and harmonizing of activities with other actors, partners and others. There have been successful attempts to do this but it has not always been the case. Observations on target site selection for different activities

point out that in some cases there has been less than a "full package" interventions. This has happened especially in the Hebron-project. Also in Qalqilia and Nablus/rural projects have suffered from health education and awareness raising without physical improvements, or construction of facilities without social extension work. This being the case there is a risk of either frustration of the target population or rapid deterioration of the new infrastructure. The Evaluation Team is of the opinion that the very short duration of the projects may have been the main reason for deficiencies in integration as the SCF teams seem to be aware of the dangers of a separate/sectoral mode of working.

### ***Sustainability of infrastructure work, health work & partner organisations and committees***

The observation that there was no operation and maintenance component in any of the four projects leads to a question of sustainability of the created physical improvements. It could be assumed that the constructions which fall under operational area and organizational niche of municipal authorities have a ready system to support the O&M of those structures constructed but the point sources for drinking water and on site sanitation structures constructed or rehabilitated need a system to be created or identified to maintain them. The private sector is in key position when trying to safeguard their sustainability. The extension work which has been carried out has increased the awareness amongst the users of the benefits of the new/rehabilitated facilities. This will contribute for the sustainability, however, the cost recovery must be guaranteed otherwise the services will not continue to function.

Some of the committees which have been active in the projects will remain operational also after the support of the projects is phased out. There will also be a fair number of them which will cease to exist. Especially those which have been established for the project purposes only are in danger, as the time they have been operational is so short. If the members find it beneficial, and if there is a "champion" to lead the committee, there is a chance of sustained activities, which can be just continuation as before or finding a new niche.

The health education will need continuation to be successful. At least in Gaza/Jabalia three of the health workers were already employed by the Municipality. This is an indication of success. Policy of the Municipality has been influenced.

The partner organizations with whom the SCF have collaborated in the projects are established organizations which belong to the society of the West Bank and in the Gaza Strip. They will continue to work irrespective of the existence of the projects. The interviews brought the Team to the understanding that the partnership had brought to them benefits in form of new ideas and working methods. This institutional capacity building may well be one of the most sustainable outputs of the projects. The West Bank projects had more partners in the NGO sector than the one in Gaza. On the other hand the GNU-project has launched a networking effort which might become an opinion forming tool in the sector development, if carried by the partners. During the First Conference for Organisations Working in the Environmental Health Sector most of the participants indicated that there is a true need for continued networking, which is a prerequisite for continued actions.

### ***Degree of community participation in the programmes***

All the projects evaluated have used participatory methods as their throughout going principle. The approach varies slightly between the projects and from location to location due to differences in the social environment. The first choice has been to have mixed committees but where that has not been possible both men's and women's committees exist. Co-ordination between these two has partly taken place through unofficial channels (spouses). The committees have been instrumental in all stages of the development process. Naturally, variations in strengths were observed. In majority of the cases, the committees, both men's and women's, seem to have participated in the decision making (for example beneficiary selection and site selection). A very special feature to be noted is the impact of the Child-to-Child programme on the self esteem of

the children who participated. In one of the meetings with the committees this was said to have widened the participation to a family oriented action, in addition to a gender specific approach. The participation, especially the impact on peoples' ability to present their needs and worries in an organized manner to the authorities, has probably been the greatest impact of the projects to the society in the West Bank and the Gaza Strip, with a spin-off effect of empowerment of men, women and also children.

There has been also a financial (money and/or labour) contribution from the beneficiaries in all projects. Communities have contributed also for the health education in some places (20 - 50 NIS/family). The Evaluation Team noted this with satisfaction as it is an indicator of testing the real need (demand of felt need).

### ***Influence on policies***

The short duration of the projects renders only limited possibilities to have an impact on the National or local level policies of the authorities. However, Nablus, Hebron and Gaza Municipalities have started a process to have a Child-to-Child programme included in the curricula of schools. The Jabalia Municipality has employed three of the health workers selected from the SCF established extension work group.

Working in co-operation with the health department of the Gaza Municipality, new skills have been learned by the Municipal health workers. In addition collaborating with other locally working groups and institutions working in the environmental health and education sectors twelve TV spots have been produced. They have been shown by the Palestinian television.

In Nablus the Palestinian Water Authority, the Environmental Health Department of MOH, and the Palestinian Hydrology Group representatives told that they all are developing their policies partly banking on the experience gained in the co-operation/partnership with the SCF-project, including the child to child approach.

The Networking effort of the GNU-project will contribute for conveying the professional opinions of the sector at the technical level to the decision making level. However, this will remain to be seen later.

## **7. Recommendations**

- It is recommended that the Save the Children continues to support the water supply, sanitation and environmental health sector as their approach and strategy greatly improves the possibilities of the society, with its governing structure, to increase the coverage of infrastructure services, especially amongst the poorest segment of the society.
- The Child-to-Child programme should be continued and further supported and depending upon possibilities, institutionalized to facilitate scaling up and sustainability.
- SCF should aim longer projects (more than just one year, perhaps three years) in order to improve the sustainability of the results. Especially components which deal with issues of attitudes and behavioural changes require long-term commitment from the agency of change. Creation of ownership requires time. Ownership is the key to sustainability.
- Cost recovery should be further encouraged and tariff structures set accordingly. Cross subsidizing can be used to address the social entity of the service provision. For example households obtaining higher service level could pay a tariff higher than the costs and/or water consuming industry/business could pay a higher progressive tariff to limit consumption and to create income for basic services.
- The adapted partnership approach is encouraged. The triparty (SCF, Municipality/Village council and local committee) approach should be made publicly known to have an impact on the National policy.
- As interventions in urban environment require much larger investments than those in rural or peri-urban areas in order to have a visible impact, SCF might want to consider concentrating

its activities in rural, small town and peri-urban (fringes) areas, unless the volume of resources is considerably larger than has been the case in the GNU-project.

- In rural areas the SCF should concentrate its projects on a limited geographical area at one time in order to achieve a higher efficiency rate. A district focus can be applied if the duration of the project is long enough to enable phased implementation. Priority order in target district selection should follow the basic principles of the SCF (poverty alleviation, need/demand, gender and family orientation).
- Stronger integration of the components (physical improvements and socio-cultural activities) is recommended. Integration should include timing, location and substance (Start so that the campaigning has time to have an impact, but not too early to lose the momentum before implementation of physical improvements. Concentrate all activities in selected, same locations, select the messages to support the kind of physical improvements which are going to be implemented). Physical improvements need the support of capacity building amongst both the users and the sector institutions in order to have sustainable development.
- Exchange and sharing of experience between the SCF offices should be further strengthened and institutionalized (Exchanges in the past have been hindered by closures and the difficulties in obtaining permits).
- The project teams should have regular professional staff co-ordinating (communication) meetings, during which also a regular review of the project proposal/document could be carried out.
- Progress reporting should be harmonised (made commensurate) between the SCF offices where possible. It should also be planned to support monitoring and to serve evaluation purposes (progress versus plans, short-term action plans, reasons for deviation from plans, financial status). Application of a participatory monitoring method is advised.
- Awareness raising and facilitating educated choices (informing the beneficiaries of alternatives and their costs and benefits) need further strengthening as they are essential for replication and sustainability of improvements. For example the real costs of construction and operation of the SDTs, and the benefits of composted sludge compared to traditional cesspits should be explained clearly to the potential beneficiaries/users.
- Further use of UPVC, HDPE pipes in water systems is recommended especially in Gaza where the soil is corrosive to metal pipes.
- Similar attention to health education is recommended for the West Bank projects as applied in the GNU-project. Employment of health workers, to act as extension agents in the communities, is recommended.
- Training of Municipal staff in community based management as a component in future projects is encouraged.
- The technical quality control of infrastructure constructed should further be strengthened, especially in rural areas. The partners, especially the local committees need added support to cope with the supervision.
- Training the members of the local committees in community based management is recommended. Facilitation of access to new skills, such as managerial, technical and socio-cultural (problem solving in prevailing culture and understanding of needs of sub-groups), will motivate the members and also improve their performance.
- Working with existing committees, where possible, is recommended instead of establishing new ones for the project purpose only.
- The Conference for Organisations Working in Environmental Health was an important gathering to highlight the progress and share the experiences gained in the sector activities. Therefore this Conference should be held annually in the West Bank and the Gaza Strip, and when the political situation allows, then combined and held on an alternating basis in the West Bank and the Gaza Strip.

**Terms of Reference**  
**Environmental Health Evaluation Information**  
**Revised November 18, 1997**

**A. Purpose**

Review SC Water and Sanitation/Environmental Health Programs in the North and South of the West Bank and Gaza assessing degree of achievement of goals stated in the three proposals, strengths of programs in all 3 regions, lessons learned, and recommending ways to improve our common strategy for all the offices.

**B. Timeframe: November 17 - December 16**

- Nov. 17: SC Office in Jerusalem: Meet evaluation team members, some SC staff, review documents, prepare for planning meeting with Staff on the 18th and possibly meet with DFID and USAID
- Nov. 18: SC Office in Jerusalem: Meet with SC staff from all offices, introduction to their programs and review scope of work, planning and logistics together
- Nov. 19, 20, 22, 23, 24: Nablus Program (21 off)
- Nov. 25, 26, 28 and 29: Hebron Program (27 off)
- Dec. 1, 2: Conference in Gaza
- Dec. 3, 4, 6, 7, 8: Gaza Program (5th off)
- Dec. 9: Developing Written Draft Evaluation Findings for December 10 meeting
- Dec. 10: Review Draft Evaluation Findings with SC staff in Jerusalem and receive feedback (1/2 day) (Ms. Tilulli departs after meeting)
- December 11 and 12: Finalize Draft Report
- December 13: Draft Report given to key SC staff for review
- December 14: Review Report with Key SC staff
- December 15: Revisions and finalization of report (**Meeting w/ Partners and Donors in Ramallah early in day**)
- December 16: Heikki Departs

**C. General Scope of Work for the Evaluation**

Review SC Water and Sanitation/Environmental Health Programs in the North and South of the West Bank and Gaza assessing degree of achievement of goals stated in the three proposals, strengths of programs in all 3 regions, lessons learned, and recommending ways to improve our common strategy for all the offices.

Particular attention should be paid to:

- Effectiveness of infrastructure work
- Effectiveness of health/awareness work including strategies used, and sustainability of changes
- Effectiveness of integration between health and infrastructure
- Sustainability of infrastructure and health work (Including institutional development and sustainability of partner organizations and committees)
- Degree of community participation in the programs (men, women and children), particularly role of women and children in decision-making, and effectiveness of SC's policies and strategies for community participation



- Evidence of influence on policies of different actors in water and sanitation and environmental health
- How existing monitoring and evaluation systems can be improved for future programs and how community members can be involved in monitoring and evaluation
- Recommending most appropriate role of NGOs in similar environmental health programs in the current context, and the appropriate relationship to Government Organizations

#### **D. Indicators**

##### **a) Effectiveness of Infrastructure work**

- Infrastructure is being used
- Number of households connected
- Percentage of households connected
- Change in existence of standing pools of stormwater and sewage
- General impact on the environment
- Appropriateness of materials used- Are there problems with the materials ?
- Appropriateness of design- Are there problems with the design ?
- Level of community member satisfaction with infrastructure
- Level of complaints about infrastructure from community members
- Level of positive comments
- Changes in disease levels related to water and sewage (Health)
- Initiatives taken by community relating to infrastructure or has project led to other projects like paving, education, SDT's (Community participation and sustainability)
- Changes in expenditures relating to water and sewage
- Cost recovery systems in place (sustainability)
- Women's role relating to infrastructure

##### **b) Effectiveness of health, awareness and education**

- Changes in behaviours (wearing shoes, less blockages from putting things in drains, handwashing, water conservation, disposal of solid waste, possibly car accidents and drugs)
- Changes in disease incidences related to water, sewage and solid waste
- Number of houses and people reached (women, children and men) by education campaigns and session (quantitative output)
- Attendance at sessions and workshops
- Initiatives taken by community relating to health and education (Community participation and sustainability)
- Men's participation in health activities
- Changes in problems relating to flies and mosquitoes
- Less garbage in streets
- Changes in illnesses reported at local clinics

##### **c) Integration Between Health and Infrastructure**

- Effect on SC staff- joint activities
- Timing of activities- are they related ?
- Changes in morbidity from water-related diseases
- Changes in behaviour (personal hygiene and general cleanliness)
- Changes in time spent
- Changes in communication
- Changes in expenses (sewage pumping)
- Changes in disposal to roads
- Changes in water consumption
- Changes in pollutants

- **General impact on environmental health**

**d) Sustainability of Infrastructure and Health Work**

- Sustainability of changes in behaviours
- Continuation of operation and maintenance of new systems
- Continuation of educational messages
- Capacity building and trained "staff" (community members)
- Ownership
- Links with other sectors
- Follow-up plans and action plans (proposals)
- Sustainability of local committees and community health workers
- Allocation of separate budget "cost recovery"
- Tariff system based on actual expenses

**e) Degree of Community Participation**

- Who identified needs and how ?
- Was community informed in advance ?
- Contribution of community members (Consider differences between offices)
- Impact of community contribution
- Decision-making power
- Self-initiated and replication

All of the above should be looked at according to role of women, children and men

**f) Influence on policies**

- Did partners accept the approach (decision-making)
- Did they start to use it or are they willing to use it in the future ?

**E. Evaluation Methodology**

The evaluation should employ participatory methodologies such as:

- Focus group discussions with children and other community members (to be developed further with SC staff)
- Involvement of SC staff, staff from partner organizations and from community committees in the evaluation process

\* Note: Focus group discussions should employ creative methods to open discussions and two way communication

It should also include:

- Review of existing materials, information (Baseline, PRA, pictures, etc) and files
- Interviews with SC staff and partners (NGOs, community committees, PWA, municipalities and Ministries)

\* Note: materials should be made available to evaluators at the beginning of their visit in each location

Since a large group of people will probably be participating in each location, they will probably meet in the morning, break into smaller teams for field visits, and meet again in the afternoon to discuss findings.

Each office will provide some feedback into the evaluation methodology to be employed in their region, will pull together all relevant materials (Reports, surveys, etc.) and will provide a draft schedule for the visits to be made. Each office will also appoint a pointperson to coordinate evaluation activities.

#### **F. Scope of Work for Team Leader from IRC (Heikki Wihuri: November 17- December 16)**

- Oversee and coordinate conduct of evaluation of three SC programs in three different geographic areas of the West Bank and Gaza Strip ensuring general evaluation SOW is achieved.
- Supervise work of evaluation team: Ms. Tualikki, two technical specialists in the West Bank (infrastructure and health/awareness) and two technical specialists in Gaza, and Save the Children staff members from the different offices
- Contribute to IRC presentation at conference and facilitate conference sessions
- Produce final evaluation report including (Executive summary, summary of methodology employed, effectiveness of programs in meeting program goals, lessons learned between offices, recommendations for future implementation)

#### **G. Scope of Work for Health Specialist from IRC (Ms. Tuulikki Hassinen-Ali-Azzani: November 22 - December 10)**

Work closely with other team members to:

- Evaluate effectiveness of health education methodology in achieving sustainable changes and empowering community members (especially children)
- Evaluate community participation in the health program
- Evaluate effectiveness of integration between health education and infrastructure work
- Evaluate and make recommendations regarding monitoring and evaluation
- Contribute to IRC presentation at conference and facilitate conference sessions
- Contribute to developing evaluation findings and report

Reporting to Team Leader Mr. Heikki Wihuri

#### **H. Scope of Work for Mr. Mohammed Sa'id Al Hmaid (17 days from November 17 - December 16)**

- Evaluate effectiveness of health education methodology in achieving sustainable changes and empowering community members (especially children)
- Evaluate community participation in health program
- Evaluate effectiveness of integration between health education and infrastructure work
- Evaluate and make recommendations regarding monitoring and evaluation
- Provide insight and make recommendations regarding the overall environmental, governmental and NGO context in which SCF works
- Contribute to developing evaluation findings and report

Reporting to Team Leader Mr. Heikki Wihuri

#### **I. Scope of Work for Civil Engineers**

- Evaluate effectiveness and sustainability of infrastructure work
- Evaluate community role in implementing infrastructure work (including women and children)
- Evaluate effectiveness of integration between health education and infrastructure work
- Contribute to developing evaluation findings and report

## **J. Information on Logistics**

### **Hotel Reservations**

#### **a) Nablus:**

Heikki- November 19 - 23

Hala Othman: November 18 - 20

Mrs. T.: November 22 and 23

#### **b) Bethlehem**

Heikki: November 24 -29 or 30

Mrs. Tuulikki: November 24 - 29 or 30

Medhat: November 26 - 29 or 30

#### **c) Gaza**

Heikki: November 29 or 30 - December 8

Mrs. Tuulikki: November 29 or 30 - December 8

Medhat: November 29 or 30 - December 2

Mohammed Khaled: November 30 - December 3

#### **d) Ramallah/Jerusalem**

Heikki: December 8 -16

Mrs. Tuulikki: December 8 -10

**Transport must be arranged by SC from location to location**

**Persons met****17.11 in Save the Children foundation (SCF) East Jerusalem Office Meeting 1**

Ms. Annie Foster, field office director SCF/Jerusalem Office  
 Mr. Mohammad Khaled, Programme Manager SCF/Jerusalem Office  
 Mr. Fred Scutt, DFID/UK  
 Mr. Muhammad Barakat DFID/UK

**Meeting 2**

Mr. Thomas H. Staal, USAID, Project Development Officer, Water Resources Office  
 Mr. Carl F. Maxwell, USAID, Chief Engineer, Water Resources Office  
 Mr. Gaby R. Abboud, USAID, A.I.D. Program Assistant

Mr. Mohammad Said Al Hmaid, Palestinian Environmental Authority, Director General

**18.11 in East Jerusalem Office**

Ms. Annie Foster, SCF  
 Ms. Lucienne Maas, SCF  
 Mr. Issa Allan, SCF  
 Ms. Hind Abdeh, SCF  
 Mr. Mohammad Khaled, SCF  
 Ms. Alia Sa'ar, SCF  
 Mr. Ahmad Sawalha, SCF  
 Mr. Na'im Ismael, SCF  
 Mr. Patrick Connors, SCF  
 Ms. Heba El-Kedwa, SCF  
 Ms. Hala Othman, SCF  
 Ms. Mirvat Ya'caub, Palestinian Hydrology Group

**19.11 in Nablus Office**

Mr. Ahmad Sawalha, SCF  
 Ms. Hala Othman, SCF  
 Ms. Ruba Abu Zachra, SCF  
 Ms. Mirvat R. Ya'coub, PHG  
 Ms. Alia Sha'ar, SCF  
 Mr. Nidal Mahmoud, Palestinian Water Authority

**20.11 in Qalqilia Municipality**

Mr. Marouf Zahran, Qalqila, Mayor  
 Mr. Mahmoud Saleh, Qalqilia, Deputy mayor  
 Mr. Abd. El Momen Afaneh, Qalqilia, Mechanical engineer, chief  
 Mr. Nabeel Barham, Qalqilia, Civil engineer, planning  
 Mr. Nidal El Haj Mahmom, PWA, Water supply engineer  
 Ms. Hala Othman, SCF  
 Ms Alia Shaar, SCF  
 Mr. Ahmad Sawalha, SCF

**20.11 in Al Quraa'n ( in Qalqilia)**

Neighbourhood committee  
 3 women + 2 men

**20.11 in Qalqilia, Committee to protect the environment**

Ms. May Zayd, Social Affairs Department

Ms. Hanan Hanjaneen, Women committee for social work  
Ms. Rula Abu Litda, Old city committee  
Ms. Hiba El Qodwa, SCF/Gaza  
Ms. Amalel Khateel, Social worker SCF/Qalqilia/field  
Ms. Alia Shaar, SCF  
Ms. Hala Othman, SCF  
Ms. Mirvat Yacoub, PHG  
Ms. Rula Abu Zahra, SCF  
Mr. Bilal Sahry, Qalqilia, Health supervisor/inspector  
Ms. Hana Hindi, Detective Department  
Mr. Nidal Mahmoud, PWA  
Mr. mohammad Mahmoud, Ministry of Education, supervisor of school health  
Mr. Yahua Nazal, Ministry of Interior

22.11 in Jeet School (Qalqilia/rural, boys and girls)  
Mr. Taha Mahmoud Al Akras, Headmater  
Mr. Mahmoud Ishtiwiy, supervisor of C.T.C (children-to children)  
Mr. Basem Ahmad Tuma'a, assistant supervisor C.T.C  
Mr. Abd El Majeed yameen, school health inspector

22.11 in Immatean, women committee  
Ms. Wardeh Abd El Raouf  
Ms. Aydah Daoud Mitany  
Ms. Basimah Fawzi Ghanem  
Ms. Tagreed Ismail  
Ms. Adeelah Kamel Sowan  
Ms. Adaf Yousef

22.11 in Azzoun Municipality  
Mr. Ishan Abd El Latif, Mayor  
Mr. Abd El Latif Abu Haniyah, member of council  
Mr. Tayseel El Deek, Engineer of Azzoun Municipality  
Mr. Riyad Ald El Raheen, member of council  
Mr. Anan Swidan, Azzoun Charity Society, chairman

22.11 in Azzoun, Charity Society  
Ms. Halimah Bidwan  
Ms. Sameerah Shobaytah  
Ms. NaimahvZomary  
+ 3 men from previous meeting

23.11 in Nablus, Al-Maari school (boys)  
Mr. Hashem El Hindi, headmaster  
Mr. Adnan El Salhi, supervisor of C.T.C.  
Mr. Mohammad Salah, supervisor of C.T.C. in Al-Maari school  
Mr. Asma'a El Sholi, supervisor in Ministry of Education

23.11 in Nablus, Municipality  
Mr. Adnan El Darhaly, vice Mayor, president of Nablus Municipality  
Mr. Maher El Hanbali, Chief engineer  
Mr. Abd El Hakeen El-Johary, Implementation engineer  
Dr. Nidal Mansour, doctor of health section

23.11 in Nablus, Nablus committee for protection of the environment

Mr. Ahif Abu Taysh, Najah university (chief of Nablus committee for protection of the environment)

Ms. Muutaha Odeh, Community based rehabilitation programme (CBR)

Ms. Bassimah El Taghoub, Centre for health development Organisation

Ms. Amal El Taghoub, CBR

Mr. Zaher El Shashtary, Nablus Municipality, health inspector

Mr. Hafeth El Hamad, Ministry of Health, EH dept., environmental inspector

24.11 in Iskaka village, womens' committee

Ms. Shomos abdallah Askar harb, chairperson

Ms. Hayat Mohammad Ali

Ms. Ahlam Adnan

Ms. Aysah Hamdan

Ms. Khadeejah Hussein

24.11 in Tamoun village, womens' committee

Ms. Saeedah Bany Odeh, chairperson

Ms. Kifah Ahmad

Ms. Ribhiyah Mohammad Hamed

Ms. Sobhiyah Mohammad Hamed (not relative of previous lady)

Ms. Maysun Hussein Ahmad Bany Odeh

Najiyah Khader Abu Rayhan

Ameenah Hussein Bisharat

25.11 in SCF office/ Hebron in Halhoul

Mr. Issa Allan

Ms. Hinel abdeh

Ms. Samirah Al Refa'i

Ms. Lucienne Maas

Mr. Mohammad Ali Takrouri, Head of local committee/hebron

Mr. Ahmad Allan, co-ordinator / PHG

25.11 in Hebron municipality

Mr. Mustafeh El Natsheh, Mayor

Mr. Tawfeek Arefeh, Head of engineering section/Hebron

Ms. Wafa Obeidat, Public relations director, Hebron Municipality

Mr. Kamal Dweik, councillor

26.11 in Hebron Old Town, neighbourhood committee

Mr. Mohammed Ali Takrouri, Head of committee

Mr. Areif Taher Ajlani

Mr. Zaad Halweh

26.11 in Hebron Old Town, The centre for Agricultural Women Development Unit

Ms. Sana El-Rajabi, co-ordinator

Ms. Soba Sinawee, co-ordinator

Four inhabitant ladies

26.11 in Hebron, Hebron committee for Protection of the Environment

Mr. Mohammed Ali takrouri, Head of committee

Mr. Thiab El-Himouni

Mr. eiman Tahboub

Mr. Saher El-Sharawi

Mr. Samer El-Tabri

Mr. Mohammed Imrish

Also two ladies from the Old town neighbour committee were at present

27.11 National holiday

Mr. Arto Kuittinen, UNDP, Hebron City Sewerage Project/PAPP

28.11 in Al Dwara village, Committee for development

Mr. Uhammad Shaker Jabarin, Chairman

Ms. Lomah Al Halayqeh

Ms. Handah Jabarin

Mr. Musa Shaker Jabarin

Mr. Rawhi Jabarin

Mr. Shaker Jabarin

Mr. Jihad Jabarin

28.11 in Tarqumiya town, Projects Development Committee

Mr. Adnan Qabajah

Ms. Najeebah Qabajah

28. 11 in Beit Ula village

Mr. Jumal Talab, leader of the village council

Ms. Suhaileh Al Imleh, Womens Cultural Committee

Mr. Ahmad Abed Al Ghang Al Imleh

Mr. Bassan Al Inleh

29.11 in Tatqumiya town, Municipality

Mr. Mohamad El-Tafreh, Mayor

Mr. Mohamad Qabajeh, engineer

Mr. Mohamad Dababsch, health unit in municipality

30.11 in SCF office, Gaza

Mr. Patrick Connors

Ms. Heba El-Kedwa

Ms. Hala Othman

1.12 First conference for Organisations working in environmental health, Gaza 1 - 2 December, 1997

2.12 First conference for Organisations working in environmental health, Gaza 1 - 2 December, 1997

3.12 in SCF office, Gaza

Ms. Rula Giryes

3.12 in SCF in SCF office, Gaza

Ms. Heba El-Kedwa

Mr. Abd. Al-Razzaq Al Gharbawi

Ms. Rana Shahin

Ms. Hala Othman

Mr. Patrick Connors

3.12 in Al-Zeitoun, Gaza, El Majdal school (girls)

Ms. Rawia Al Ghazali, headmaster

40 pupils

3.12 in Al-Zeitoun, Gaza



Ms. Najwa Haneyya, community health worker (volunteer)  
Ms. Salwa Sa'ad Allah, community health worker (volunteer)  
Ms. Khetan Abu-Ras, community health worker (volunteer)  
Ms. Khadeeja Aaish, Committee of churches, INCC

**4.12 in SCF office, Gaza**

Ms. Firyal Snunu  
Ms. Rayhada El Shami  
Ms. Aneisa Ghaynam

**4.12 in Gaza Municipality**

Mr. Awn Al Shawa, mayor  
Mr. Hussain Abu Zeid  
Mr. Dawoud Tarazi  
Mr. Ahmad Al Sha'el

**4.12 in Al-Zeitoun, Gaza, Womens' committee**

Ms. Khetan Abu-Ras, community health worker  
Ms. Etidal Drimly  
Ms. Ablah Fora  
Ms. Nora Al-Nadem

**4.12 in Al-Zeitoun, Gaza, Mens' committee**

Mr. Naji Nadeem  
Mr. Alaa' Al-Nadeem  
Mr. Ashaf Al-Nadeem  
Mr. Fayez Al-Nadeem  
Mr. Omran Murtaja  
Mr. Naeun Galaja  
Mr. Mohammed Dreamly

**4.12 in Gaza Municipality, health & environmental department**

Mr. Abdel Rhem Abul Kumboz, engineer  
Ms. Lisbeth Zonneveld, consultant Gaza City solid Waste Project  
Ms. Raada Ghaben, community health worker  
Ms. Suhila Sha'tt, community health worker

**4.12 in Al-Zeitoun, Gaza, home visits**

Ms. Wael El Belbesi  
Ms. Samia El Belbesi  
Ms. Im Sameer Abu Adab  
Ms. Najwa Al Sawfiri

**5.12 Team internal working in hotel**

**6.12 Culture Revival Society-Ijdaidah-Children from C.T.C**

Zahra'a Al Fayoumi  
Hedaya Al Fayoumi  
Anees Shafiq Hararah  
Saber Jaradah  
Muhanad Hararah  
Ali Bdeir  
Asma'a Al Fayoumi  
Muzayan Al Za'alan

**Nura Hajaj**  
**Hanan Ayyad**  
**Rawdeh Abu Asser**  
**Intesar Mushtaha**  
**Ismail Al Fayoumi**

**6.12 Men Committee-Ijdaidah**

**Mr Taher Samarah**  
**Mr Abed Al Rahman Shakour**  
**Mr Majdi Al Helou**  
**Mr Ammar Abu Dalou**  
**Mr Naim Samara**  
**Mr Younis Irshi**  
**Mr Zuhair Shakour**  
**Mr Muhammad Mahmoud Al Mabyad**  
**Mr Subhi Samara**  
**Mr Mahmoud Al Qouta**

**7.12 Municipality of Jabalia**

**Mr Issa Taher, Deputy Mayor**  
**Engineer Yousef Abu Wardeh**  
**Engineer Rabi'a Al Haj Ali**  
**Engineer Khaled Abu Al Khair**  
**Engineer Jamal Nabhan**  
**Dr. Issa Qarawi**  
**Mr Muhammad Bashir Al Tayeb**  
**Engineer Hamdi Imtair**  
**Engineer Nizar Zaqout**

**7.12 Health Workers, Ibad Al Rahman-Jabalia**

**Ms Raedah Abu Ghaban**  
**Ms Hayat Bakheet**  
**Ms Hanan Abu Sa'dah**  
**Ms Ismat Al Masri**  
**Ms Basmah Abu Nader**  
**Ms Lana Abu Al Jidyan**  
**Ms Kareemah Juma'h**

**7.12 Home Visits in Jabalia**

**Ms Ansaf Al Masry, Housewife**  
**Ms Serreyya Al Asaly, Housewife**  
**Ms Kareema Goma'a, Community Health Worker**  
**Ms Hanan Abu Sa'ada, Community Health Worker**  
**Ms Mozna Hassan El Kanoua, Housewife**

**7.12 Local Women's Committee**

**Ms Nesreen Abu Hayya**  
**Ms Itidal Abu Hayya**  
**Ms Subheya Meghdas**  
**Ms Amna Al Madhoon**  
**Ms Fatena Al Barggony**  
**Ms Soheer Abu Hayya**  
**Ms Fatima Sagi**  
**Ms Amna Sabbah**

**Ms Fayqa Abu Saree'a**  
**Ms Ameena Safi**  
**Ms Basma Abu Nadi**  
**Ms Ghada Sabbah**  
**Ms Mervat Sabbah**

**7.12 Children participated in C.T.C Jabalia**

**Amer Al Masri**  
**Hamdi Abu Nasser**  
**Insaf Al Masri**  
**Muna Al Zaharneh**  
**Muath Bakheet**  
**Itaf Al Qasas**  
**Samah Al Shami**  
**Ala' Bakheet**  
**Sevjan Al Shami**

**7.12 Men Committee, Ibad Al Rahman-Jabalia**

**Mr Said Al Asali**  
**Mr Saleem Nimer Al Waheedi**  
**Mr Abed Al Kareem Al Ajrami**  
**Mr Nasser Kashkash**  
**Mr Abd Al Razzak Al Gharbawi**  
**Ms Hala Othman**

**8.12 Meeting With Teachers-Al Zeitoun**

**Ms Majedah Abu Sareih**  
**Ms Halah Othman**  
**Ms Mervat Al Hadad**  
**Ms Shadiah Al Samak**  
**Mr Zaki Al Sarami**  
**Mr Nidal Al Shami**  
**Ms Rasha Talabeh**  
**Ms Wala'a Hassan**  
**Ms Nihal Al Dreimli**  
**Ms l'atedal Ali**  
**Mr Samir Saleem Labad**  
**Mr Waleed Aref Hamadeh**  
**Ms Aydah Al Sawalhi**  
**Mr Muhammad Ahmad Abu Saqer**  
**Ms Fathiyah Mahmoud Abu Aisheh**  
**Ms Heba Al Qedweh**

**8.12 Meeting with Team of Health and Environmental Development**

**Mr Hasan Muhammad**  
**Mr Saleem Al Abadleh**  
**Mr Omar Safi**  
**Ms Muna Jadallah**  
**Ms Sana'a Abed Al Salam**  
**Ms Ne'ameh Abu Sha'irah**  
**Ms Hanan Abu Amouneh**  
**Ms Maha Shehadeh**  
**Ms Asma'a Al Shrafi**

10.12 Meeting with SCF professional staff from Jerusalem, Nablus, Halhul/Hebron and Gaza offices

11 - 15. 12 Report writing

Indicators used, with success rate evaluated by the respective SCF team.

Project: Nablus=N, Qalqilia=Q, Hebron=H, Gaza=G

Success rate: 66 % indicates achievement of the expected targets

Number of forms returned: N=5, Q=4, H=3, G=4

Effectiveness of infrastructure work	Success rate %			
	N	Q	H	G
Infrastructure is being used	73	58	83	83
Percentage of households connected	66	66	75	83
Decrease in existence of standing pools of stormwater and sewage	53	66	42	58
Overall impact on environment	66	75	66	75
Appropriateness of designs/problems with designs	73	33	83	66
Level of community satisfaction with infrastructure provided	73	58	50	75
Spin-offs of the project (community initiatives for other projects)	40	50	50	66
Felt cost/benefit ratio of consumers improved	46	50	33	42
Women's role in decision making of infrastructure provided	27	58	25	33

Codes:+++ over target, ++ in target, + under target, - not achieved

Effectiveness of health education & awareness work	Success rate %			
	N	Q	H	G
Number of households reached in HE (women, children and men)	53	58	58	75
Attendance at HE sessions (women, children and men)	53	66	58	75
Initiatives taken by community related to HE	66	66	50	50
Improvements in school cleanliness (general)	75	66	75	17
Improvements in school toilet/latrine cleanliness	58	66	58	8
Less garbage in streets	66	50	58	66
Changes in illness reported at local clinics (water & sewage related)	20	17	50	75

Codes: +++ = over target; + = in target; + below target; - = not achieved

Integration between health education and infrastructure work	Success rate %			
	N	Q	H	G
Are integrated action plans available for each location	25	44	33	42
Timing of activities (were they related)	20	33	66	50
Is HE and infrastructure improvement collaboration institutionalised in SC	33	22	66	25
Does target population integrate in their mind HE and infrastructure improvement	58	44	42	50
Increased communication (service provider - target population)	40	50	50	50
Changes in expenses (sewage pumping) ((-) more expensive, (+) cheaper)	27	33	8	33
Changes in disposal to streets/roads (ww + solid waste)	46	66	58	50
Changes in water consumption	40	50	42	50
Changes in pollutants	40	33	50	42
General impact on environmental sanitation	53	50	58	66

Codes: +++ = over target; + + = in target; + below target; - = not achieved

Sustainability of Infrastructure and health education	Success rate %			
	N	Q	H	G
Operation and maintenance of new systems organised	53	50	66	50
Capacity building and trained staff (community members)	53	58	50	50
Feeling of ownership in community	73	66	50	83
Allocation of separate budgets for ws, ww & he (cost recovery)	13	17	50	17
Tariff system based on actual expenses	20	0	42	8
Fees collected	40	25	42	33
Links to other sectors (education, health)	53	50	66	66
Improvements in hygienic practises continued	60	58	58	50
Follow-up plans and action plans (proposals)	40	66	58	50
Continuation of local committees and community health workers (volunteers)	53	50	42	33
Continuation of educational messages	53	42	50	25
Changes in expenses (sewage pumping) ((-) more expensive, (+) cheaper)	20	33	25	25
Decrease in disposal to streets/roads (ww + solid waste)	33	58	50	66
Changes in water consumption	0	42	42	50
Changes in pollutants	26	33	58	33
General impact on environmental sanitation	26	50	66	50

Codes: +++ = over target; ++ = in target; + below target; - = not achieved

Degree of community participation	Success rate %			
	N	Q	H	G
Did community(+++) municipality(++), SC & municipality(+), SC alone (-) identify needs (verification of effectiveness of need/demand)	40	33	66	92
Was community informed in advance of plans to improve infrastructure	47	50	50	75
Level of community participation: (+++) up to decision power, (++) up to advise, (+) time and/or labour only, (-) money only	33	33	50	83
Self-initiated replication (new community based initiatives in any related sector)	33	17	42	50

Codes: +++ = over target; ++ = in target; + below target; - = not achieved

Influence on policies	Success rate %			
	N	Q	H	G
Did partners accept the approach	33	33	66	42
Did they start to use it(+++), has the process started(++) or are they willing to do so(+)	40	42	50	66
Other relevant institutions accepted the approach	26	17	50	33
Did they start to use it(+++), has the process started(++) or are they willing to do so(+)	26	33	42	58

Codes: +++ = over target; ++ = in target; + below target; - = not achieved

All the indicators are produced in group work by the opening workshop on the 18.11.1997 in the Jerusalem office of the Save the Children Foundation. The participants of the workshop:

Ms. Lucienne Maas, SCF  
 Ms. Hind Abdeh, SCF  
 Ms. Alia Sa'ar, SCF  
 Mr. Na'im Ismael, SCF  
 Ms. Heba El-Kedwa, SCF

Mr. Issa Allan, SCF  
 Mr. Mohammad Khaled, SCF  
 Mr. Ahmad Sawalha, SCF  
 Mr. Patrick Connors, SCF  
 Ms. Hala Othman, SCF

**Ms. Mirvat Ya'caub, Palestinian Hydrology Group**  
**Mr. Mohammad Said Al Hamaidi, Palestinian Environmental Authority**  
**Mr. Heikki Wihuri, IRC**

## Project Framework Outline, Nablus (ODA/DFID 09)

Project title: Water Resource Development, Sanitation & Environmental Health in the Northern West Bank.

Timetable: One year

Brief description:

This project addresses the environmental health problems in the Northern West Bank by improving the quantity, quality & reliability of drinking water supplies and by disposing of sewage in communities with no sanitation facilities. Also promotion of environmental protection, safe garbage collection & disposal techniques & hygiene awareness.

Funding details:

TOTAL: PND 500,000: PND 327,500=project materials; communities to provide matching funds, (at least PND 327,500) + PND 172,500 for training, programme development & other direct costs

Project Structure	Indicator of achievement	Means of measurement	Assumptions and risks
<p><b>Wider Objectives:</b></p> <ul style="list-style-type: none"> <li>- A healthy environment for disadvantaged Palestinian children/their families by decreasing incidence of water borne &amp; associated diseases,</li> <li>- optimising use of available water,</li> <li>- improving the physical environment of rural communities while introducing environmental awareness.</li> </ul>	<ul style="list-style-type: none"> <li>- infant mortality/morbidity due to waterborne &amp; associated diseases</li> <li>- quantity of safe water provided by the project</li> </ul>	<ul style="list-style-type: none"> <li>- baseline surveys before project implementation &amp; 2 years later</li> </ul>	<ul style="list-style-type: none"> <li>- Assumed procedures for project approval will not greatly change w/PNA</li> </ul>
<p><b>Immediate Objectives:</b></p> <ul style="list-style-type: none"> <li>- Improve quantity, quality &amp; reliability of drinking water,</li> <li>- introduce low cost appropriate community sewage collection systems in densely-populated urban neighbourhoods &amp; camps,</li> <li>- demonstrate environmentally safe household sewage treatment for rural areas,</li> <li>- promote garbage collection campaigns &amp; community-based sustainable systems,</li> <li>- raise community awareness regarding hygiene, environmental</li> </ul>	<ul style="list-style-type: none"> <li>- # of families/access to clean, safe drinking water year round</li> <li>- hours saved by children/ women in water collection</li> <li>- # of families w/access to proper sanitation collection &amp; disposal systems</li> <li>- # of women/children involved directly in environmental campaigns or subproject committees</li> <li>- # of institutions/orgs involved in all aspects of the project/network</li> <li>- the frequency of the replication of activities by local communities themselves</li> </ul>	<ul style="list-style-type: none"> <li>- an evaluation will be carried out by SCF staff, evaluation specialists &amp; external staff after project's completion.</li> </ul>	<ul style="list-style-type: none"> <li>- Assuming municipalities provide trucks for garbage collection campaign</li> <li>- assuming communities will not restrict women's participation</li> <li>- communities accept new ideas &amp; technologies</li> </ul>



<p>health hazards &amp; prevention of water-borne/associated diseases,</p> <ul style="list-style-type: none"> <li>- enhance role of women/children in water, sanitation/environmental health programmes,</li> <li>- partner with local, foreign and UN organisations to promote a network for co-operation in environmental awareness,</li> <li>- reduce the time spent by women &amp; children collecting/transporting water.</li> </ul>			
<p>Outputs:</p> <ul style="list-style-type: none"> <li>-4 poor neighbourhoods in Nablus city linked to municipal sewage network &amp; given 80 garbage collection containers</li> <li>- 70 garbage containers in 3 villages/camps</li> <li>-100 SDTs demonstrated in 5 villages</li> <li>- In 3 villages new/rehabilitated networks</li> <li>- 3 rural wells &amp; 2 springs rehabilitated</li> <li>- Sites in 2 camps cleared of garbage &amp; converted to park/playground</li> <li>- construction of 200 cisterns</li> <li>- comprehensive environmental health programmes in each impact area</li> </ul>	<ul style="list-style-type: none"> <li>- # of women, children, families, villages, camps, neighbourhoods served by the project</li> <li>- # of km of sewage line &amp; water pipes installed</li> <li>- # of cisterns constructed</li> <li>- # of SDTs demonstrated</li> <li>- # of wells rehabilitated</li> <li>- # of containers provided</li> </ul>	<ul style="list-style-type: none"> <li>- SCF staff regular monitoring &amp; follow-up visits</li> <li>- SCF's Planning &amp; Evaluation system (PEMS)</li> </ul>	<ul style="list-style-type: none"> <li>- Assuming community contribution of voluntary work</li> <li>- Assuming no major fluctuation in price of materials</li> </ul>
<p>Inputs;</p> <ul style="list-style-type: none"> <li>- ODA &amp; community funding for project costs</li> <li>- Oda funds for programme delivery and other direct costs.</li> </ul>	<ul style="list-style-type: none"> <li>- PND 655,000 projects (50% from communities)</li> <li>- PND 12,000 Training</li> <li>- PND 13,334 eval/audit</li> <li>- PND 43,333 capital asset</li> <li>- PND 8,000 Prog. dev.</li> <li>- PND 83,300 salary/ dir costs</li> </ul>	<ul style="list-style-type: none"> <li>- SCF financial rpts</li> <li>- Partners' financial rpts</li> <li>- External auditors' &amp; evaluators reports</li> </ul>	<p>- Assumptions:</p> <ul style="list-style-type: none"> <li>- UK gov's ongoing aid to Palestinians</li> <li>- Int. NGOs can continue to work in WB/Gaza</li> </ul>

**Project Framework Outline, Qalqilia (ODA/DFID 10)**

Project name: Water Resource Development, Sanitation & Environmental Health in the West Bank

Timetable: One year

Project description: This project addresses the environmental health problems in the West Bank city of Qalqilia by improving the quantity, quality and reliability of drinking water supplies and by disposing of sewage safely in communities with no sanitation facilities. Importance is placed on promotion of environmental protection and disposal of hygiene awareness.

Budget: total = £ 500,000; Project delivery = £ 368,418, communities to provide matching funds; Personnel, technical assistance and other direct costs = £ 119,385

Project narrative	Objectively verifiable indicators	Means of verification	Assumptions and risks
<p><u>Goal:</u> To improve the environmental health status of poor Palestinian communities with a focus on women and children</p>			
<p><u>Purpose:</u> To improve the physical and environmental health of communities in Qalqilia &amp; the surrounding area by optimising the use of available water &amp; improving sewage &amp; solid waste systems</p>	<ul style="list-style-type: none"> <li>• Infant mortality/morbidity due to water-borne &amp; associated diseases</li> <li>• Quantity of safe water provided by the project</li> <li>• Improved hygiene practices &amp; proper solid waste disposal</li> </ul>		
<p><u>Outputs:</u> 1. Access &amp; reliability of drinking water improved 2. Quality of water improved 3. Introduce low cost appropriate community maintained sewage systems in densely populated urban neighbourhoods 4. Demonstrate environmentally-safe household sewage treatment for rural areas 5. Promote garbage collection campaigns &amp; community based sustainable systems 6. Raise community awareness re: hygiene, environmental health</p>	<p>1.1 hours saved by children/women in water collection 1.2 # of families with access to clean, safe drinking water year round 1.3 frequency of replication of activities by local communities 2.1 Decrease in incidence of water-borne &amp; associated diseases 3.1 # of families with access to improved sanitation 4.1 # of families with access to proper sewage disposal 4.2 Frequency of activities by local communities 5.1 # of families with access to solid waste removal 5.2 # of cleaning campaigns 5.3 # of posters &amp;</p>		

<p>hazards &amp; prevention of water-borne/ associated diseases</p> <p>7. Enhance role of women/children in decision- making, implementation &amp; assessment of water, sanitation &amp; env. health programmes</p> <p>8. Partner with local, national &amp; UN organisations to promote a network for co-operation in environmental awareness.</p>	<p>informative materials distributed in each area</p> <p>6.1 # of community members involved in awareness raising activities</p> <p>7.1 Women/children involved directly in env. campaigns or subproject committees</p> <p>7.2 # of children participating desegregated by age &amp; gender</p> <p>8.1 # of institutions/org. involved in all aspects of the project/network</p>		
<p><u>Activities</u></p> <p>1. Building branch sewage lines to link neighbourhoods with the municipal main lines</p> <p>2. Building of sub-surface drainage units (SDT's) for rural communities &amp; training of the beneficiaries in maintaining the units</p> <p>3. Construction of rainwater harvesting cisterns &amp; training of the beneficiaries in maintaining them</p> <p>4. Improvement of existing rural wells and water networks</p> <p>5. Removal of accumulated waste, provision of garbage containers in crowded urban areas</p> <p>6. Environmental health awareness campaigns</p> <p>7. Hiring and maintaining SC staff</p>	<p>1.1 One poor neighbourhood in Qalqilia linked to municipal sewage network &amp; given 50 garbage containers</p> <p>2.1 75 SDTs demonstrated</p> <p>2.2 Training held in each village</p> <p>3.1 120 cisterns constructed</p> <p>3.2 Training held in each village</p> <p>4.1 2 artesian wells rehabilitated</p> <p>4.2 2 water networks built/rehabilitated</p> <p>4.3 Appraisal of communities to determine the incidence of water-borne &amp; associated diseases desegregated by gender &amp; age</p> <p>5.1 75 garbage containers provided in 3 villages/camps</p> <p>5.2 2 sites cleared of garbage &amp; converted into children's parks</p> <p>5.3 Sustainable solid waste removal system identified for communities</p> <p>6.1 Programme Manager, Infrastructure Co-ordinator, 2 Asst. Infrastructure Co-ordinators, &amp; Environ. Health/Gender Co-ordinator.</p>	<ul style="list-style-type: none"> <li>• SCF financial reports</li> <li>• Partners' financial reports</li> <li>• External audit &amp; evaluation reports</li> <li>• Sub-project agreement signed by SC and the community</li> </ul>	<ul style="list-style-type: none"> <li>• Community contribution</li> <li>• No major fluctuation in price of materials</li> <li>• No restrictions on importing construction materials (pipes, cement, etc.) as a result of Closure</li> </ul>

### Statistical data on achievement of physical improvement targets in the projects

#### Nablus achievements by January, 1997 (end report)

Activity	Planned output	Actual output
Installation of water network		
# of neighbourhoods connected	3	3
# of km installed		8.1
Rehabilitation of springs	2	3
Rehabilitation of groundwater wells	3	3
Construction of rainwater harvesting systems		
# of cisterns constructed	200	250
Installation of sewage network		
# of neighbourhoods connected	4	10
# of km installed		5.5
Construction of SOTs		
# of units constructed	100	106
Provision of garbage containers		
# of neighbourhoods provided	7	6
# of containers provided	150	200
Conversion of dumpsites to parks		
# of dumpsites converted	2	1

#### Qalqilia achievements by 10.12.1997

Activity	Planned output	Actual output
Installation of water network		
# of neighbourhoods connected	2	4
# of km installed		13.5 km
Rehabilitation of groundwater wells	2	1
Construction of rainwater harvesting systems		
# of villages served	5	9
# of cisterns constructed	120	114
Installation of sewage network		
# of neighbourhoods connected	3	3
# of km installed	5.5	3.65
Construction of stormwater drainage		
# of neighbourhoods connected		1
# of km installed		0.26

Sanitation		
Construction of SDTs		
# of villages		5
# of units constructed	75	85
Provision of garbage containers		
# of neighbourhoods provided	3	3
# of containers provided	125	125
# of garbage bins		80
Conversion of dumpsites		
# of dumpsites converted to parks		2

#### Hebron achievements by 28.11.1997

Activity	Planned output	Actual output
Installation of water networks		
# of neighbourhoods connected	1	5
# of km installed	1	14
Rehabilitation of groundwater wells	1	1
Construction of rainwater harvesting systems		
# of cisterns constructed	80	87
Construction of SDTs		
# of units constructed	50	53
Provision of garbage containers		
# of containers provided	75	80
# of garbage bins provided	75	23
Conversion of dumpsites to parks		
# of dumpsites converted	1	1

#### Gaza Neighbourhood Upgrading Project achievements by 1.12.1997

Planned output (proposal)	Amount achieved	Notes
17,200 presides labour (employment)	5,661	Will increase in finalisation works (paving streets)
13,000 m sewage lines	10,227m	
4,000 m drinking water lines	2,018 m	
4,000 m stormwater drainage pipes	1,352 m	

**Gaza Neighbourhood Upgrading Project  
Roles of actors/ partners**

Notes	Municipality	Community Comm.	Role of SC	Stage of the Project
	x	-	x	1. Select the area
	x	SC engineers explain the plans to the community & take recommendations.	Review the tenders, plans, quantities.	2. Design the Project technical - tenders ....etc.
Lowest bid+acceptability to inhabitants+performance reputation	x	x	x	3. Advertise the bidding and choose the Contractor.
Sit engineer & Co-ordinator from SC, foreman and site engineer form the Municipality, one or too men from the committee.	x	x	x	4. Implementation "Supervision"
NIS 200 for health worker	Materials , Labor and Complete the infrastructure project	* Time and effort. * Money for health edu. (salary). * House connection.	x	5. Contribution.
SC pays direct to the contractor after the municipality & the committee agreed.	x	x	x	6. Payments
also all are involved in the final payment.	x	x	x	7. Evaluation (Final Payment)
	x	-	SC engineers held a workshop of how to protect the networks.	8. Maintenance.

**Some results of the Environmental Health Assessment and Measurement of Change of Um-Al Limon, Zeitoun, Gaza, SCF/Gaza, July 1997**

Table 1: Most valuable Information Gained in Order of Importance

	No.	Percent
Garbage management	99	51.6
Shoes dressing	28	14.6
Keep sewers clean	26	13.5
Washing hands	20	10.4
Water reduction	19	9.9

Table 2: Benefits Gained from Health Workshops

	No.	Percent
New information	150	76.9
Implementation	163	83.6
New skills	30	15.4
Problem solving	114	58.5
Change behaviours	183	93.8
Other benefits	19	9.7

Table 3: Children's hand Washing Practice in %

Year	Before and after each activity	Only when dirty	Before eating
1996	66.8	92.3	7.7
1997	77.9	61.5	54.9

Table 4: Children Shoe Wearing Practice in %

Year	%
1996	54.4
1997	61.0

Table 5: Interviewer's Observations - household Hygiene in %

	Poor	Acceptable	Good
1996	8	39.8	52.2
1997	6.7	41.0	51.8

Table 6: Interviewer's Observations - Garbage Around Home in %

Year	Much	Little	None
1996	17.4	41.4	41.4
1997	10.8	54.9	32.8

Table 7: Interviewer's Observations - Garbage Inside Home in %

Year	Much	Little	None
1996	12.5	40.8	46.8
1997	6.2	32.3	60.5

Table 8: Distribution of illnesses in %

Year	Diarrhoea	Parasites	Skin diseases	Mother illness
1996	29.7	47.7	44.3	59.0
1997	10.8	29.2	24.1	59.0

Written by Mr. Ahmad Sawalha, SCF/Nablus  
Unedited

## Subsurface Drainage Technique SDT

### Introduction :

Most of the Palestinian Rural areas are without sewage networks , and even in urban areas the sewage systems are not sufficient to meet the required needs . In rural areas people used to dispose their sewage to a cesspool ( a hole being excavated in the soil ) very close to their house , and because this hole is being excavated in the ground without any kind of protection , which became a proper source of contamination to the ground water , also in rocky areas the sewage closes the cracks of the rocks a after some time and this means that the capacity of the hole becomes limited , for that reason people used to pump the swage from the hole different times per year and this will make heavy load on the shoulders of the users , and in some cases people used to dispose the liquid from the kitchen or sinks to the streets in order to decrease the amount of pumping rates , so this will cause different health and environmental problems .

### Objectives :

- To dispose and treat the sewage in a safe and healthy manner
- To provide low cost model in solving the problems of sewage
- To decrease the diseases and environmental problems resulting from using the old type
- To best benefit from the liquid treated in agricultural purposes

### Project Description :

- The project consists of three main parts :
  - 1) The sewer line from the house
  - 2) The septic Tank and
  - 3) The distribution manhole and the penetration field

#### \* The Sewer Line From The House :

The sewer line carries all the sewage to the septic tank it should be installed under ground , all joints should be water tight , it should slope towards the septic tank on a uniform grade not less than .002 and should have as few bends as possible , no bend should exceed 45 degrees , The line should be at least 15 m away and downhill from a well or spring

#### \* The septic tank :

The function of the septic tank is to provide a place for :

- 1) for sewage solids to separate out of the liquid
- 2) for bacterial action to decompose or ( digest ) the major portion of the solids
- 3) for storage of residual solids

The septic tank is the main part of the process , all the sewage from the house are disposed to that tank which should be completely closed , the decomposition of the solids happens as a result of the anaerobic bacteria , the sewage entering the tank carries enough bacteria for this operation , and such an operation is favorable for it's work because of the lack of air , darkness and plenty of food so the bacteria will multiply rapidly .

#### Design Parameters :

- It was assumed that the discharge quantity of an ordinary family (7-10 people ) is 0.5-1 cubic meter /family/day
- , the tank is divided into two compartments . The size of an ordinary septic tank is 3\*2\*2 , and it is divided into two compartments , the first compartment is 2/3 of the size of the septic tank ,



the two compartments were separated by a partition wall . The inflow pipe should be 30 cm below the ceiling , while the outflow pipe should be 40 cm below the ceiling , the transmission pipe which is located on the partition wall should be 35 cm below the ceiling , the inflow pipe , the transmission and the out flow pipe should be of T section to enable the liquid to pass without suspension . The septic tank should be made of concrete or lined blocks and should be completely closed .

Cleaning of the tank could be between 3 -5 years , and there should be two places on the ceiling of the tank ( two removable parts ) that make the cleaning easy

#### **The distribution manhole :**

It is the function of the manhole to divide the liquid effluent to all disposal lines in order that the field will work effectively . The distribution manhole connects the septic tank with the penetration field , the size of the manhole is 50cm \* 40 cm , the floor of the manhole should be flat in order to distribute the water equally to the penetration field , this manhole should be closed and it could be easy to make cleaning by having a removable part .

#### **The penetration field :**

The penetration field consists of perforated pipes being laid in the ground in trenches under the ground surface not less than 60 cm , the pipes should be buried with gravel around the pipes not less than 15 cm in order to make filtration of the effluent liquid, the pipes should be laid with a slope not less than 1 percent , the penetration holes in the perforated pipes should be separated 15 cm between each other , the holes should be at the bottom of the pipe .

A layer of 5 cm ash should be laid over the gravel , this layer will help in raising the alkalies and some kinds of bacteria to get rid of the suspended organic solids. The pipes should be separated 2 meters at least , the length of the pipes for one house is 35-40 meters. The minimum required area for penetration of the liquid for an ordinary house should be at least 80-100 sq. meter .

#### **Socio - Economic Aspects Of SDT In Comparison To The cesspool :**

\* The cost of this system is low in comparison to the old system being used , the total cost SDT is \$ 700-1000 , while the cost of a seepage pit is \$ 1500- 2000 .

\* It is easy to construct such a system , it does not require deep excavations while in a cesspool it needs so . The user of the SDT can made the excavations , the construction of the septic tank and the installation of the pipes

\* The SDT can be cleaned every 3-5 years , while in a cesspool you have to pump it in some cases twice a month , the cost of pumping such a pit ranges from \$ 15-25 .

\* People benefited from the treated water in irrigating certain kind of plants , while in it became a potential source of contamination to the ground water .

\* The behavior of disposing the water from the kitchen and the sink in the case of a cesspool not to fill it is eliminated in the case of SDT .

\* This on site treatment could be a solution to the rural areas , where the other solutions like the sewage network is economically not feasible .

#### **SC Input in this model :**

- Make lectures to the beneficiaries on the benefits of the SDT in comparison to the cesspool .

- Training the committee in how to build it and to supervise the work

- contribute with the \$ 350 to the total cost of the SDT , this \$ 350 will go to the cost of materials , each beneficiary will contribute in the labor work and in the cost of some materials , so people could build their own system , SC contribution is 30%-35%.of the total cost .

-Direct supervision to the construction and installation work .