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FOR A BETTER URBAN FUTURE



Participatory Slum Upgrading Documented Experience from Ismailia, Egypt.



Foreword

The UNDP Participatory Slum Upgrading Project in Ismailia has successfully accomplished the upgrading of El-Hallous and El-Bahtini informal settlements in Ismailia city. This document calls for the preservation of knowledge and documentation of the gained experience by describing the institutional setup, project management, knowledge management, the context, upgrading approach, resources, activities, outputs and outcomes. The main objective of this effort is to upscale good practices and lessons learned to the national policy level. The knowledge generated will contribute to other slum upgrading projects in Egypt and worldwide.

The main output is a 'document' that includes descriptions that highlight the complex network of layered activities including institutional setup, project management, knowledge management, the context, upgrading approach, resources, activities, outputs and outcomes in various formats including text, images and supporting documents. The outcome of this process of documentation is a bottom-up understanding of pro-poor land and urban dynamics; an understanding that will bring city stakeholders to agree on a way forward in dealing with slums and informal settlements in Ismailia city and governorate. This will be achieved by engaging stakeholders and actors in the process of reflection and documentation.

The documentation of El-Hallous and El-Bahtini will link to other national and local activities. The documentation process will be informed by local slum upgrading and management workshop where local land and urban management stakeholders from Ismailia and other local communities will profile and discuss pro-poor land and housing issues. The 'documentation' will also provide input to a national policy seminar on slum upgrading where national institutions, local government, donors and international organizations will meet to take stock of previous experiences, describe best practices to outline good slum upgrading policies, and identify gaps and issues towards a revised strategy.

Finally, the Participatory Slum Upgrading Project in Ismailia wishes to express its respect and gratitude to UNDP, UNHABITAT, the Italian Cooperation and Ismailia Governorate for supporting this effort.

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Executive Summary

Ismailia Governorate is the one of the most important cities of the Suez Canal region located 100 km towards the East of Cairo, Egypt. Several regional institutions are based in Ismailia such as the headquarters of the Suez Canal Authority, the main campus of the Suez Canal University and the Suez Canal regional office of the General Organization for Physical Planning (GOPP). Ismailia Governorate covers an area of approximately 5067 km² representing about 0.5% of Egypt's area. It extends along the west bank of the Suez Canal as well as with a portion that is located on the East side of the Suez Canal.

Ismailia is facing several challenges in terms of its future urban growth. Being surrounded by agricultural land, the horizontal expansion of urban built up areas has been always restricted in previous master plans. The majority of urban expansion that has taken place within the last two decades has been informal through illegally subdividing agricultural lands on the cities' peripheries and transforming them to residential lands.

The purpose of this report is to document the experiences gained and lessons learned through the implementation of the Participatory Slum Upgrading Project in Ismailia. The purpose of this report is to document the experiences gained and lessons learned through the implementation of the Participatory Slum Upgrading Project in Ismailia (PSU). It highlights the background of the project, management structure, project activities and achieved results. The report also documents the challenges that faced the project during implementation and how they were overcome.

The scope of this documentation covers two slum areas which had been upgraded by the PSU: El-Hallous and El-Bahtini. Finally this report assesses the benefits gained from community engagement in the project and documents the best practices that can be up-scaled on the national level.

The Participatory Slum Upgrading Project in Ismailia was developed as a follow-up to the activities of the working groups on urban upgrading within the Sustainable Ismailia Project which recommended upgrading two informal areas on Lake Tamsah. There were several reasons behind this prioritization:

- Both El Hallous and El Bahtini are informal areas that surround Lake Tamsah and represent sources of pollution to the lake,
- The polluted water of Lake Tamsah (the western lagoon) affected El-Bahtini in particular as many of its dwellers were dependant economically on fishing in its waters,
- Lake Tamsah was considered a major attraction for economic development in Ismailia therefore it was important to upgrade the informal settlements that surrounded it,
- The two settlements lie within the most important Markaz and City in Ismailia Governorate,
- Living conditions in both areas were unacceptable and several environmental, social and economical problems were alarming,
- Proximity of the two settlements to the City center and the potential of acting as suitable urban expansion areas for the growing population of Ismailia,
- Potential for setting up a model for participatory upgrading that can be repeated in other informal areas in Ismailia and in Egypt.

The direct beneficiaries of the project were identified as follows:

- The fishermen who represent the most deprived sector of the community and are particularly impacted by a series of events and circumstances in the last few years (pollution, reduced catch, lack of access to the lakes, two-month fishing bans etc.),
- Vulnerable marginalized groups particularly women (widows, elderly)

- Unemployed youth and,
- Construction workers benefiting from direct employment through works generated by the project

The total project budget of the Project was EGP 18,744,300 which was mobilized through the Debt-for-Development Swap programme. The project was nationally executed by Ismailia Governorate and implemented by the United Nations Development Programme (UNDP) using the national execution modality. The capacity building component of the project drew upon the expertise of UNHABITAT and was conducted within the Capacity Building and Training Centre which was established by the UNDP/Social Fund for Development in co-operation with the Ismailia Governorate.

El-Hallous and El-Bahtini are located south of Ismailia City to the west of El-Sayadeen Lake (western fishing lagoon). They were informally built and faced several problems such as lack of social services and basic urban services including clean water and appropriate sanitation systems. Many of the dwellers of the two areas suffered bad health and poor living conditions.

Despite the above, the two areas had good potential for urban and social upgrading because of the following reasons:

- availability of land for future expansion and urban development.
- availability of number of buildings which were generally in good structural conditions.
- potential for intensified expansion due to low building heights, which could absorb future growth of population.

Based on the social and urban profiles that were developed for both El-Hallous and El-Bahtini, the Project was capable to draw a good picture of the living conditions of the dwellers in both areas. Several meetings were conducted with the dwellers and their community leaders as well as executive bodies to listen to their needs and also provide them with technical facts and information about their areas.

The interventions undertaken by the Project were in 3 directions:

First: Physical Upgrading

Under this component, the Project managed to upgrade the urban conditions in both settlements where basic urban services were installed such as potable water, sewage network, paved roads and electricity networks.

Second: Social Upgrading

This included upgrading of the socio-economic conditions of target groups such as women, school students and youth. The main activities under this component included:

- issuing ID's for women
- Conducting illiteracy eradication classes
- Conducting health awareness campaigns for fishermen, women and students
- Equipping the Youth Center with necessary gymnastic machines
- Issuing voting cards for women
- Assisting in the micro-loan programme in cooperation with a local NGO
- Securing land tenure

Third: Capacity Building

This component focused on building capacity of the local authorities in conducting participatory planning and upgrading activities.

Training and capacity building events included:

- A two week training in conflict management for 25 local trainees was prepared in collaboration with UN-Habitat.
- A three phase program to enhance the capacity of workers in the random housing development departments was prepared.
- GIS program's preparations in collaboration with the faculty of science-Suez Canal University were made.
- Three workshops were prepared for project implementing agencies and local communities on participatory planning for slums, strategic plans, new construction laws, and action planning.

Approach

The Project used the work group approach in all its activities. This allowed more participation of all stakeholders in the upgrading process. It also allowed for resolving several implementation problems.

Outcomes

Many outcomes were realized during the period of the Project implementation. The following are the main ones:

- The Project was keen to involve the beneficiaries of the upgrading works, mainly slum dwellers, in all its activities, beginning with the initial household surveys. Regular meetings with the dwellers of both areas were conducted. The Project has opened two Implementation Units to be close to the community and report any problems or requests to the Project management.
- Groups of project volunteers in both areas have played an important role in several project activities, in monitoring of the quality and timeliness of work of the service providers (contractors) and in awareness campaigns organized with parent councils, women and youth.
- Work Group (WG) meetings attended by representatives of the community and by the Project management and technical staff, were an important component of planning and operation of the upgrading process. These meetings have helped, among other things, to ensure coordination, community buy in and to eliminate several obstacles that might delay the execution of infrastructure networks.
- Community Based Organizations (CBOs) were also an important factor of participation and of continuity. While they were involved as main stakeholders in community planning and as members of WGs, CBOs could benefit from further capacity building in order to be able to better serve their communities and lead development initiatives in the future.
- Since its preparatory phase the Project has collaborated with four consecutive Governors, with whom the National Project Coordinator (NPC) has had regular working meetings. At the same time the NPC also held meetings on regular basis with the Secretary General of the governorate and the Chief of the City Council to ensure the smooth implementation of the project's activities. This policy level support of the participatory upgrading process initiated by the project is very likely to continue beyond the formal project period.
- Strengthening of local NGOs, and of CBOs is an outcome of the Project with a likely long-lasting impact. At the same time, however, the training needs of the NGOs and of CBOs, were, even at the time of closing of the project, cited by several residents as being among the most important training needs that require further attention.
- A number of cultural and social activities, especially for youth and women, was initiated by the project, including among others theatre and visual arts groups, choir, boy/girl scouts, gym and sport activities, computer café's etc.
- The project adopted a policy that ensured gender equality in benefiting from the project's activities, and contributed to redressing gender imbalances by targeting women with specific sets of activities.

- The main environmental outcome and long term impact of the PSU project is its contribution to the cleanliness of Lake Temsah, and especially of the Western Lagoon. This is an outcome of national level importance.
- Activities and outputs of the Project are likely to have several impacts in the area of education. Some of them, such as immediate reduction of the number of the school drop-outs during the period of the pertinent activities of the project, have been measured
- The process of institutionalizing the participatory slum upgrading approach with Government authorities has been well advanced by the Project.
- The main economic and financial outcomes of the Project were a result of the regularization and registration of land, a micro-loan programme, issuance of ID cards, improved accessibility due to better roads and public transport, improved environmental conditions, and literacy training.

Lessons Learned

Should new slum upgrading projects be implemented in Ismailia or in Egypt, there were some key lessons that need to be considered when developing or implementing new slum upgrading projects. The main lessons learned were:

- Legal and regulatory framework of future projects need to be clearly defined and agreed at the beginning.
- Collaborate with and strengthen the well established organizations – government and non-government.
- Properly coordinate the provision and upgrading of various physical networks.
- Utilize local small and medium contractors in upgrading works.
- Upgrading of both the physical and socio-economic conditions should take place simultaneously
- Ensure community involvement and ownership
- Establish cooperating with an existing and active NGO to implement some components within the project

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Acronyms

ADE	Association for Development and Environment
ARA	Agriculture Reform Authority
CA	Cities Alliance
CBO	Community Based Organization
EGP	Egyptian Pound
EPM	Environmental Planning and Management
GIS	Geographical Information System
GOE	Government of Egypt
GOPP	General Organization for Physical Planning
GPS	Global Positioning System
ID	Identification card
IG	Ismailia Governorate
IU	Implementation Unit
NGO	Non Governmental Organization
ODA	Official Development Assistance
PSU	Participatory Slum Upgrading
SCA	Suez Canal Authority
SCA	Suez Canal Authority
SCP	Sustainable Cities Programme
SCU	Suez Canal University
SDA	Sinai Development Authority
SIGP	Sustainable Ismailia Governorate Project
SIP	Sustainable Ismailia Project
SITC	Sustainable Ismailia Training Centre
TAU	Technical Advisory Unit
TAU	Technical Advisory Unit
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WG	Work Group

I. About Ismailia

1.1 Introduction

Ismailia Governorate is the one of the most important cities of the Suez Canal region located towards the East of Cairo, Egypt. Several regional institutions are based in Ismailia such as the headquarters of the Suez Canal Authority, the main campus of the Suez Canal University and the Suez Canal regional office of the General Organization for Physical Planning (GOPP). Ismailia Governorate covers an area of approximately 5067 km² representing about 0.5% of Egypt's area. It extends along the west bank of the Suez Canal as well as with a portion that is located on the East side of the Suez Canal. The agricultural sector in Ismailia is considered the main economic activity which made Ismailia governorate accommodate several agro-industrial activities such as food processing, food packaging and fertilizers. In addition, the industrial sector has grown recently to include other types such as soaps, oils, chemicals, paper and production of construction materials. Industries in Ismailia city are specialized in garments production, assembly of electric machines, marble processing, perfumes and automobile accessories and spare parts production.

Ismailia is facing several challenges in terms of its future urban growth. Being surrounded by agricultural land, the horizontal expansion of urban built up areas has been always restricted in previous master plans. The majority of urban expansion that has taken place within the last two decades has been informal through illegally subdividing agricultural lands on the cities' peripheries and transforming them to residential lands.

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1.2 Location of Ismailia City

Located in North Eastern part of Egypt midway along the Suez Canal between the two cities of Port Said and Suez, Ismailia city is considered the center of the Suez Canal region. It is also one of the nearby cities to the Capital as it is only 140 km away from Cairo. The Governorate consists of five Markaz: Ismailia, Fayed, Al-Tal Al-Kabeer, Kantara Sharq and Kantara Gharb. All parts of the Governorate are connected with an integrated network of roads enabling traffic to connect Ismailia city with its suburbs.



Figure 1: Location of Ismailia on Egypt's map

1.3 Historical Development of Ismailia

Although Ismailia is known to be developed in the 19th Century following the construction of the Suez Canal, there are several evidences that there existed an ancient civilization in the area. The discovery of the archeological site such as Tal Al-Maskhota in Abu Seir village in 1886, is an example of many other sites that proves that ancient human settlements did exist in the area. This place was in fact the ancient "Baraton Ai" town where the temple of the ancient Egyptian god Aton was established.¹

In its early days, Ismailia was called Temsah Village, but it was subsequently named after Khedive Ismail of Egypt. Its original residents are those farmers and fishermen who lived in this village. They were followed by fishermen from the north of the Delta, who migrated to the city and established a new settlement based on fishing and trade.

1.4 Natural Resources

Ismailia has got several important natural resources on top of which is The Bitter Lakes (Al-Morrhah). Although not fully utilized, there are many tourism establishments which were established around the Lakes such *Morgan, Mashrabeya, Canary, Bullman and El-Safa*. In *Tablet El Shagara* which lies 10 km from Ismailia, natural resources include sands, pebbles, lime stone, gypsum and pebble soil. In addition, Lake Temsah, which is located to the South of Ismailia and covers an area of approximately 14 square kilometers, is known for its calm waters and is currently utilized for many recreational activities. Beaches such *Moslem Youth, Fayrouz, Melaha, Bahary, Taawen*, in addition to the Suez Canal Authority beaches receive thousands of visitors from Ismailia as well as from surrounding cities.

¹ Discovered monuments and Ptolemy alabaster coffin of Aton are currently exhibited in Ismailia Museum.

Ismailia is also famous for its highly productive agricultural lands which lie on the peripheries. Fruits and vegetables are considered highly competitive and favored by the local market especially mangos and strawberries.

Ismailia is also privileged by having wide areas of state/private owned desert land which represent a real asset and potential for urban expansion.

Ismailia Canal, which is fed from the Nile, is also considered one of the most significant natural resources that exist in Ismailia.

1.5 Population

Ismailia governorate experienced a rapid population growth especially its urban areas. The urban population represents 50.3% with an average residential density of 170 persons per square kilometer within the inhabited area. Ismailia Markaz is considered the largest among the five Markez in the Governorate in terms of population size and the second largest in terms of area after *Kantara Sharq*.

According to the 2006 census, the total population of Ismailia City was 303,527 distributed administratively as follows:

- 38,838 in the 1st kism (12% of total population),
- 176,678 in the 2nd kism (57 %) and
- 88,011 in the 3rd kism (31%).

Table 1: Administrative distribution of Ismailia City Population (Sheiakha Level)

Ismailia	Male	Female	Total
1. First Kism	19,725	19,113	38,838
1.1. Temsah	8,537	7,836	16,373
1.2. Abbasy	7,231	7,522	14,753
1.3. Makkah	3,957	3,755	7,712
2Second Kism	91,390	85,288	176,678
2.1. New Araysha	16,417	15,460	31,877
2.2. Hekr	38,290	35,494	73,784
2.3. Elshohada (Arayshyet Elabeed)	36,683	34,334	71,017
3. Third Kism	44,966	43,045	88,011
3.1. Sheik Zayed Al-herafeyeen & New Housing Zone	44,966	43,045	88,011
Ismailia City (Total)	156,081	147,446	303,527

1.6 Socio-Economic Profile

In 2003/2004, the real GDP per capita in Ismailia city was EGP 6,120.4 compared with EGP 4,120 for the total governorate and EGP 5,537.6 for Egypt average. This shows a relatively higher standard of living compared to other governorates and cities.

In order to attract private investments and create job opportunities, two industrial zones were established. These zones host many factories which are contributing to the local and national economy. In addition, there are other private investments in the fields of land reclamation for agricultural purposes, food stock as well as recreational activities.

According to the CAPMAS statistics for 2006, the unemployment rate in Ismailia was 8% of the total labor force. With respect to human development, Ismailia faces several challenges such as:

- High rate of residents below poverty line is (8.21% of total population)
- Relatively low contribution of women in economic activities (only 26.4% of the labour force is female).
- More than 59% of total population is living in informal settlements.
- Problems of infrastructure especially in total coverage and quality of sewage network.
- Large disparity in terms of income within the city between high and low income households

1.7 Urban Development

1.7.1 Urban History

When the Suez Canal was being dug, Ismailia became of greater strategic importance. It was during this time that the city became divided into two districts:

- the Arab district which was inhabited by Egyptian citizens who participated in the

construction of the Suez Canal and Ismailia fresh water canal. It was characterized by its traditional and Islamic style buildings. It mainly consisted of *El-A'araisheia* and *El-Mahatta El-Gedida* areas.

- the western district that was designed as “Petit Paris” where all foreigners and heads of the Suez Canal Company settled. It was characterized by its western style buildings and large green areas and plenty of green areas and trees

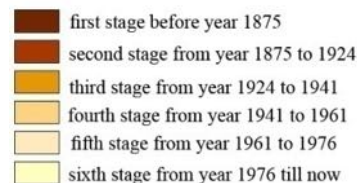
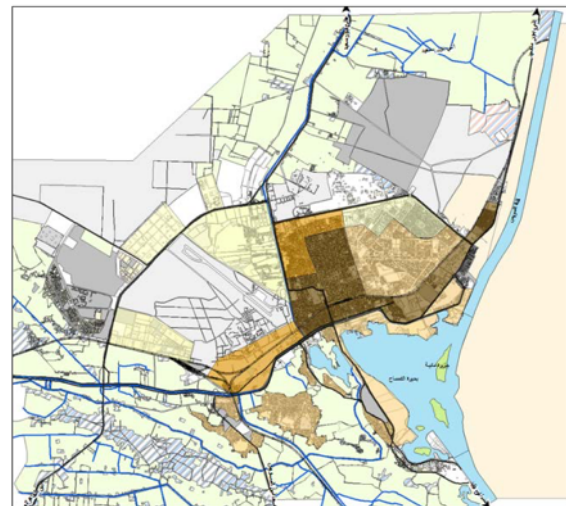


Figure 2: Ismailia urban development



Photo 1: Ismailia architectural pattern in 1885



Photo 2: Ismailia architectural pattern in 1885

After the 1967 war, the majority of the city's population evacuated to other Egyptian cities and Ismailia became a restricted war zone till the 1973 war. Starting from 1974, the city witnessed unprecedented urban growth due to the return of its original residents in addition to new dwellers who came mainly from the neighboring Sharkia Governorate. This urban population growth was also encouraged by a wide reconstruction process undertaken by the Government of Egypt. Despite this, the new housing units were not sufficient to accommodate the returning residents and the new comers who started to squatter on state owned land in an informal unplanned process.

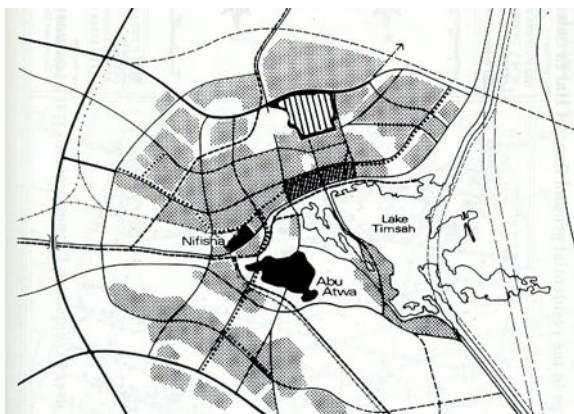


Figure 3: Ismailia in 1974

Apart from the original planning of the city in the 19th century, the first master plan for the city was issued in 1976 after the 1973 war. The purpose of the plan was to reconstruct the city and it mainly focused on rebuilding the old

neighborhoods in addition to upgrading a large number of informal settlements such as El-Hekr (Hai El-Salam) and Abou Atwa.

In 1990, the structure plan of the city was prepared targeting the year of 2015. It updated the first master plan of the city and included the rural areas surrounding it.

Ismailia city is clearly divided by Sultan Hussein Street. On the East side of the city, it is characterized with its low density, while the other side (west) is a highly dense urban area.

1.7.2 Urban Expansion

In 1994, the total area of Ismailia City reached 13,870 feddans² (acres) while it is expected to reach 18,313 by 2015 according to the 1990 Structure Plan. The planned areas of expansions determined by the Structural Plan were as follows:

a) The Eastern Bank of the Canal: It was considered as one of the potential area for the urban growth of the city especially with the increasing desire of citizens to establish the New Ismailia City next to the planned Technology Valley, a major development project that was anticipated to take place in the 1990's. This also matched the national development strategy for the Sinai Peninsula which also developed during the same period.

b) Kilo 2 Area: Located in the western part of Ismailia City, next to the city's urban area (Second District), this was considered as one of the informal areas which could be developed to make use of the state owned vacant areas existing in it.

c) The North Area: This is called FEDECO Land and it is owned by the Governorate and was identified as a good potential for urban expansion.

² 1 Feddan = 4200 Square meter

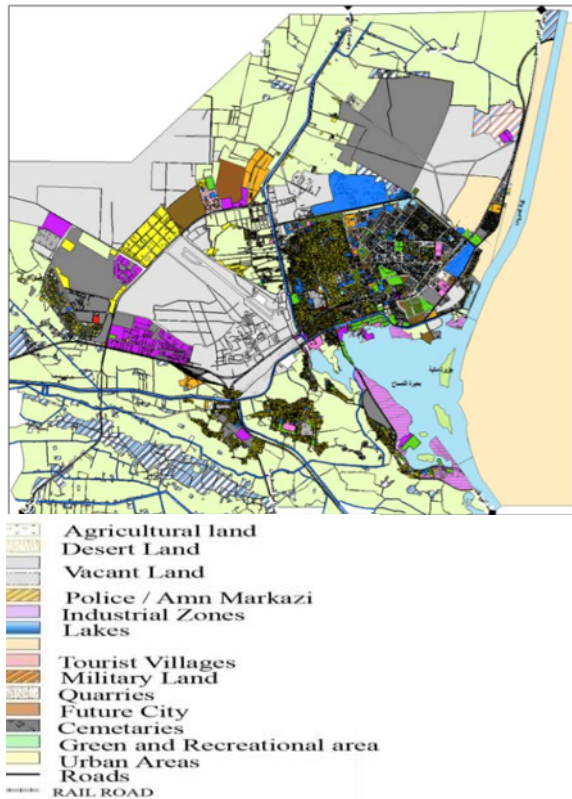


Figure 4: Ismailia Land Uses

1.7.3 Urban Governance

Ismailia City is divided administratively into 3 Kism (districts). Each district is headed by an appointed Chief. District chiefs report to the The Council of Ismailia Markaz and City which is responsible for the city management.

The Urban Planning Committee in Ismailia Governorate is responsible for linking Ismailia Governorate with all its local units and main villages. As for the city boundaries, coordination is performed by the regional office of the General Organization for Physical Planning. The committee is also coordinating with the National Center for State Land Uses, and the Regional Urban Center within the Ministry of Culture.

The Housing Directorate in Ismailia Governorate is the authority responsible for implementing urban development projects, providing them with infrastructure, and responsible for monitoring and maintenance tasks.

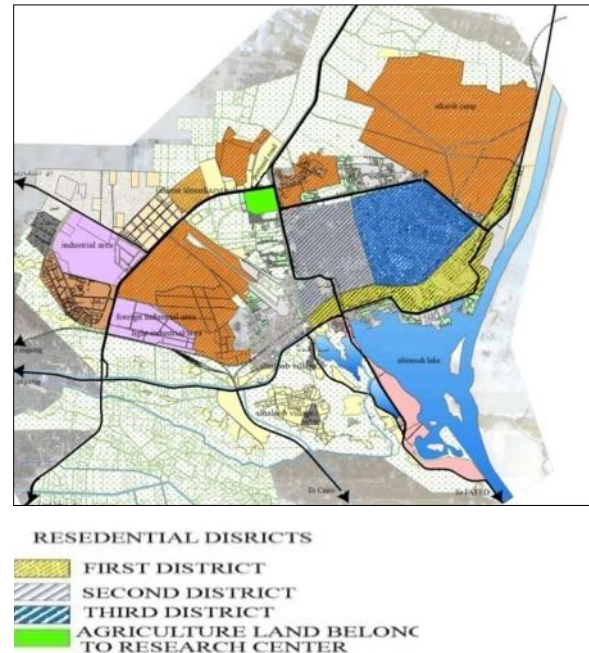


Figure 5: Ismailia Administrative districts

The administrative and organizational structure of Ismailia city consists of several administrations and departments that affiliate to the Chief of the City Council.

The Land Protection Administration in the Agriculture Directorate is mandated to restrict the encroachment on the agricultural lands.

1.8 Housing in Ismailia

Ismailia had faced the challenge of providing a sufficient number of housing units to meet the housing requirements for its returning citizens and new comers after the 1973 War as well the requirements of the new generations and the growing population. Many housing development schemes resulted in the construction of thousands of housing units.

1.8.1 The Housing Market

In total, there are 97,548 housing units in Ismailia City distributed over the different administrative divisions of the City.

The private housing pattern prevailed in Ismailia City representing approximately 59.8% of the total housing sector. The public housing

represented only 11.4% of the total housing sector. Quite large percentages (10.1%) of houses in Ismailia were categorized as “deteriorated” and need to be renovated or reconstructed. In addition, a significantly large percentage of housing units existed in informal areas in Ismailia City reaching 18.7% of the total housing units as shown in the following illustrations.

Table 2: Distribution of Housing Units in Ismailia City

Types of Housing		Number of Units	Percentage
Formal Housing	Governmental	11121	11.4 %
	Private	58334	59.8 %
Informal Housing (slums)		18241	18.7 %
Deteriorated Housing		9852	10.1 %
TOTAL		97548	100 %

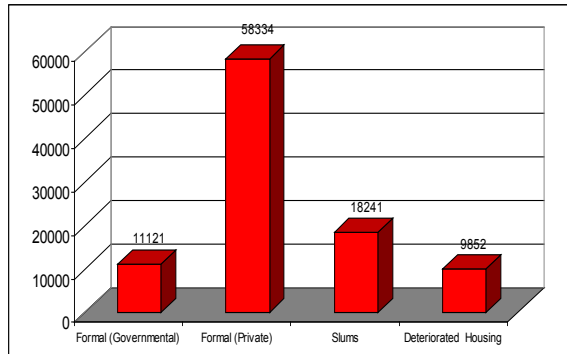


Figure 6: Distribution of Housing Units According to Type of Housing

According to official statistics, there should not be a deficiency in the number housing units in Ismailia at the current situation. In fact, in 2007 there was a surplus in the number of units. This was mainly due to the large number of closed and vacant units that were determined in the Year 2007 to be about 43,115 housing units distributed over the administrative divisions of the City as shown in the following illustrations.

Table 3: Closed and Vacant Housing Units Statistics

Housing Areas	Number of Closed / Vacant Units	Percentage
First kism	5,616	13.1 %
Second kism	19,518	45.3 %
Third kism	10,670	24.7 %
Ismailia (Rural)	7,311	16.9 %
Ismailia Markaz (Total)	43,115	100 %

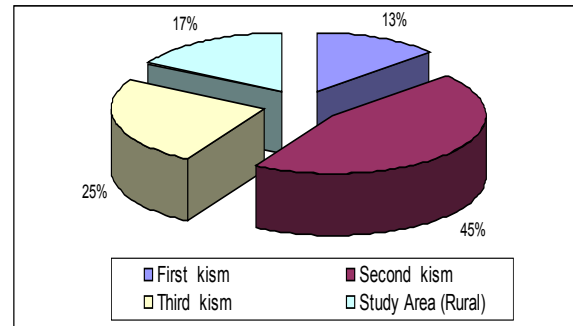


Figure 7: Distribution of Closed/Vacant Units

1.8.2 Current and Forecasted Housing Demands

The demand for housing units in Ismailia was calculated as the difference between the number of families at the Year 2027, the number of currently available residential units and the useable housing stock in the new urban development areas.

The population data and growth indicators showed that the 2007 population was 307,840 citizens (estimated) and was expected to increase to 503,746 citizens by the Year 2027 which required the provision of housing units for 195,906 individuals by 2027.

In comparing the number of families in 2027 and the current of available housing units with the required number of housing units at 2027, the following was determined:

- The current (2007) total number of families in Ismailia city was 95,844. In the meantime, the available number of the housing units was 97,548. This resulted in a **surplus of 1,704** housing units at the current (2007) situation.
- Given that the average family in Ismailia City is 4.1, therefore the number of expected families by 2027 is 157,937.

Accordingly, it's required to provide 62,093 housing units over the coming period of 20 years until 2027. Given the current surplus of 1,704 housing units in Ismailia City, therefore, the required supply of housing units over the coming 20 years is **60,389**.

1.8.3 Housing Allocated for The Poor & Low Income Groups

Within the units available for housing, there were no units allocated to the poor or the low income groups. As explained above, most of the housing units in Ismailia were privately developed. Although a large portion (78%) of the Public Housing (total 4,142 units) was dedicated for the middle low income families, this was not enough to meet the needs of the entire poor or lowest income population demanding appropriate housing where only 10.7% was allocated for the Urgent Housing situations.

Table 4: Public Housing Scheme

Type of Housing	No. of Units in the City	No. of Units in the Governorate	% o the Governorate
Economic Housing	3206	4142	78.7 %
Urgent Housing	488	4552	10.7 %
TOTAL	3748	8694	----

It is important to mention that neither the 2007/2008 budget nor the budgets of the preceding three years at Ismailia Markaz or City level or at the surrounding villages included any governmental allocations for new Public Housing projects.

1.8.4 Housing Challenges

As explained above, although there was a surplus in housing units in Ismailia City, yet this did not address the shelter needs for the majority of the population. There are many challenges that faced the housing sector in Ismailia that resulted in a severe shelter problem in the City represented in the development of many slum areas. The following were determined to be the most significant challenges:

- Poor role of the government in providing adequate housing for citizens especially the majority of the poor population;
- Government's inability to provide financial allocations directed towards solving the housing problems in the City;
- High Prices of the housing units in the City whether for buying or renting as a result of the rise in prices of construction materials;
- Instability of the prices of construction materials (Steel, Cement etc), which make people unable to predict the costs of housing construction.
- The existence of many unplanned slums.
- Poor Decisions and Laws which organize the City's urban development.

II. Ismailia Informal Areas

2.1 Background

Informality in Ismailia City mainly took two forms:

- Illegal subdivision of agricultural lands and construction of houses over them without planning or building permits. This type represented 72% of the number of informal settlements in the City,
- Squatting on state owned desert land and starting to constructing houses without planning or building permits using low quality or temporary building materials. This type represented 28% of the number of informal settlements in the City,

Both forms share the same problems such as lacking infrastructure and basic urban services, social services and not considered in any formal development plans being illegally established and violated all planning and building codes from the governmental point of view.

Recently, the Government of Egypt acknowledged the need to upgrade the informal areas and legalize their status. Accordingly, many investments were put in place to provide basic urban services to these areas. In Ismailia, 7 informal areas were identified and started receiving government financed upgrading projects.

2.2 General Characteristics

2.2.1 Population and Housing Conditions

According to the most recent statistics of the Ministry of Local Development (MoLD), Ismailia's seven informal settlements accommodated about 185,000 inhabitants, representing 59% of Ismailia's urban population

and distributed over the slum areas as shown in the following table.

Table 5: The Distribution of the informal Areas in the City

Area	# of Population (2006)	# of informal Units.	%
El-Hejaz (Kilo 2)	5787	1532	8.4%
El-Bahtini	9398	3024	16.5 %
El-Hallous	5500	2473	13.6 %
Ali Eid	19714	2573	14.1 %
Ezbet Hussein Adam	15433	4077	22.4 %
Abou Atwa	17113	4562	25 %
Total	68893	18241	100 %

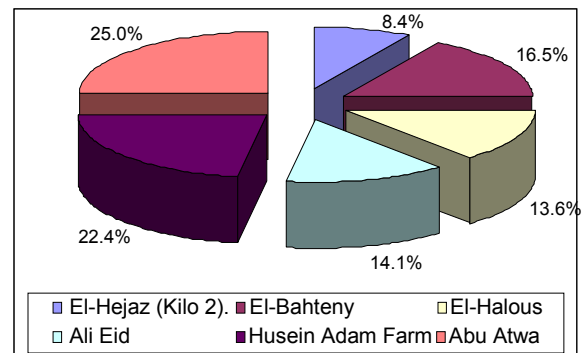


Figure 8: Distribution & Percentage of Informal Housing In Ismailia City

Two categories of housing existed in the informal areas in Ismailia:

1- Average (Moderate) Housing

This type of housing was concentrated in the areas south of the City such as El-Bahtini, El-Hallous, Abu Atwa, Ezbet Hussein Adam and, Ali Eid.

2- Economic housing:

This type of housing was concentrated in the non-planned areas North-West of the city the area of Kilo-2 and some southern rural assemblies. The following figure shows the distribution of the housing units in the informal settlements in Ismailia City.

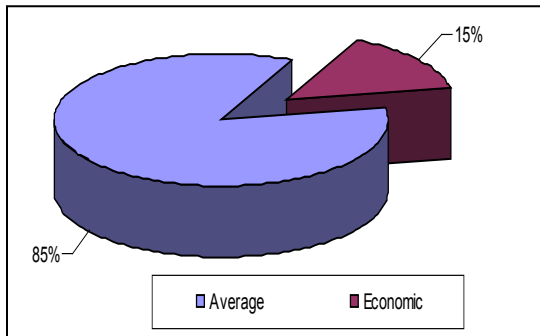


Figure 9: Levels of Housing in informal areas

The deteriorated areas did not represent a big percentage (only 0.99% of the total built-up block).

2.2.2 Living Conditions in Informal Areas in Ismailia

Slum dwellers in Ismailia faced several challenges. There were common issues that were determined almost in all Ismailia informal settlements. The following were among these common issues:

- Poor status or absence of public utilities and infrastructure,
- Poor public health conditions;
- Low human development, due to lower literacy rates, higher poverty;
- High rates of unemployment and lower role for women in addition to gender inequality;
- Social problems because of lack of privacy as a consequence of narrow spaces between housing units and sharing facilities among many families;
- Construction of buildings without observation of technical considerations and building codes;



Photo 3: Narrow Streets May Cause Social and Public Health Problems

2.3 Ismailia Experience in Upgrading Informal Areas

2.3.1 General Objectives of Development Projects in Ismailia

In all the development projects undertaken by Ismailia Governorate, there were common goals and objectives. Also, by learning from the successful Hai Al-Salam upgrading experience, the following lessons determined:

- Urban areas should be planned according to population and economic growth trends.
- Political will and support is essential for the success of any upgrading project
- Urban expansion on agricultural lands should be limited and controlled
- Organizational lines for streets and land plots should be respected.
- The carrying capacity of the Project's Area should be maximized to avoid any dislocations or evictions.
- Infrastructure as well as social services should be improved and go hand in hand in the target area.
- The community, especially youth, should be engaged in the upgrading efforts and learn how to contribute in serving the community.
- Dedicated knowledgeable staff and experts should be made available to any project in order to increase chances of success.

2.3.2 Previous Slum Upgrading Projects

The population of slum dwellers in Ismailia reached approximately 60,000 individuals in 1977, which represented 38% of the city's population. Slums re-development started according to the General Plan for Ismailia City which was prepared after 1973 War. It identified the areas of Hai Al-Salam and Abou Atwa as priority areas for development projects.

The activities in Hai Al-Salam Development Project started as a pilot for developing more slum areas. Afterwards the work extended to cover other slums based on the lessons learned from this experience.

The pilot project of Hai Al-Salam had proved a success and was even internationally recognized

as one of the success stories in implementing participatory slum upgrading.

This encouraged Ismailia Governorate to adopt this approach in its future upgrading projects. The following were the slum upgrading projects undertaken by the Governorate:

Hai Al-Salam Development Project:

The Project's Area was 769 acres, including the following areas:

- Hai Al-Salam. El-Shohada Area. The Public Square Area.

About Atwa Area Development project:

The Project's Area was 1240 acres including:

- Abou Atwa, Nafisha Elbaharia and Nafisha Elkeblia, Nafisha Railway houses, Ali Eid, Ezbet Farag , Ezbet Adam, El Khashaina, and **El Hallous & El Bahtini**

Kilo 2 Development Project:

The Project's Area was 232 acres including:

- Ibrahim Saleh, Abu Alnour, El kemly, Adam, Abd El Reheim, El Damarany

Al Saba'a Abar Development Project:

The Project's Area was 671 acres, including the following areas:

- The Eastern & Western Saba'a Abar Area.
- 6th October Area.

About Sweir Development Project:

This Project Area was 554 acres.

2.3.3 Hai El-Salam Slum Upgrading Approach

Hai El-Salam project served the Low-Income population. It was implemented with the lowest possible budget and without the need for highly sophisticated technologies. The project was adjustable and flexible according to the gained expertise. It had to conform to the available laws and administrative structures with the possibility of implementing the same project concepts elsewhere, through the gained expertise during implementation.

The project addressed the issue of land ownership and using legalization tools to cover

the costs of construction of roads and basic urban services. For instance, land plots were sold by one of the following methods:

- Ownership of land squatters to holders, with low prices.
- Offering land plots for sale by average prices by (Lot) system for citizens.
- Selling the distinct land plots through Public Auctioning with reasonable prices compared to the Market Prices.

The participation of the residents of Hai Al-Salam contributed significantly to the success of this project. Their participation appeared in many forms such as:

- Participation in discussing and approving the detailed planning which was prepared for the development project.
- Specifying land prices in the old areas (land squatters) according to the financial capacity of the population.
- Personal contribution in the improvement process and in building the houses.
- Taking part in cleaning and landscaping the area.
- Assisting the Project Management in its early stages of urban and social surveys.
- Provision of certain essential services such as the religious and commercial services

In fact, Hai Al-Salam was supported at all levels, starting from the highest executive level represented by the Governor, as well as by the public represented by the slum dwellers. In addition to highly dedicated project management and staff who were all testing new approaches in that field and managed to deliver an internationally recognized success story in slum upgrading.

2.3.4 Sustainable Ismailia Governorate Project (SIP)

The capacity building "Sustainable Ismailia Governorate Project" funded by UNDP and implemented nationally with support from UN-HABITAT was one of the first UN-HABITAT/UNEP Sustainable Cities Programme (SCP) pilot projects. The first phase, "Sustainable Ismailia Project" (SIP), focused on Ismailia City applying the SCP broad-based

“Environmental Planning and Management” (EPM) participatory approach. The project included the development of the city profile, and through a broad-based city consultation, and thematic working groups, identified the main issues, priorities and main axes of further intervention. The axes focused on: *Lake Tamsah* Pollution, Industry, Agriculture and Urban Upgrading.

SIP leveraged funding for the implementation of some of these projects locally from national sources amounting to a total of about EGP100 million in the mid 1990s. The second phase of the project, “Sustainable Ismailia Governorate Project” (SIGP), built-up on the successes of the first phase and aimed at replication of the SCP process in the other four cities in Ismailia Governorate.

The project included the development of the city profile, and through a broad-based city consultation and thematic working groups, identified the main issues, priorities and areas of further interventions. The areas of intervention focused on: Lake Tamsah Pollution, Industry, Agriculture and Urban Upgrading. Working Groups were formulated which, with UNHABITAT technical support, developed feasibility studies for several bankable projects. The Sustainable Ismailia Governorate Project (SIP) leveraged funding for the implementation of some of these projects locally from national sources amounting to a total of about EGP100 million in the mid 1990s.

The second phase of the project was built on the successes of the first phase and aimed at replication of the SCP process in the other four cities in Ismailia Governorate. The project directed its efforts to poverty reduction through capacity building of women and youth local NGOs.

Throughout the project the capacity of the local authorities was built in the fields of participatory planning, environmental planning and management as well as GIS.

As a follow-up to the working group’s activities on urban upgrading a request was submitted to the World Bank/UN-HABITAT Cities Alliance (CA) Programme to fund the feasibility studies aiming at upgrading two priority informal settlements on Lake Tamsah in Ismailia City: El Hallous and El Bahtini.

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III. Participatory Slum Upgrading Project in Ismailia

3.1 Project Description

3.1.1 Background

The Participatory Slum Upgrading Project in Ismailia was developed as a follow-up to the activities of the working groups on urban upgrading within the Sustainable Ismailia Project which recommended upgrading two informal areas on Lake Tamsah which were considered as major sources of pollution to the Lake. El-Hallous and El-Bahtini were identified as the priority target areas for physical and social upgrading.

On the Government side, the National Five Year Plan (2002 – 2007) aimed to achieve spatial dissemination and regional balance through urban development and in particular through the upgrading and development of informal settlements. The Plan called for participatory planning in local communities to encourage participation in socio-economic development on the national and local levels with a view to creating new job opportunities, avoiding the expansion of physical informal cities, improving land use and public services and making use of the human resources inherent in youth.

3.1.2 Why El-Hallous and El-Bahtini?

As mentioned earlier, SIP selected El-Hallous and El-Bahtini to be among the priority projects to be implemented. There were several reasons behind this prioritization:

- Both El Hallous and El Bahtini are informal areas that surround Lake Tamsah and represent sources of pollution to the lake,
- The polluted water of Lake Tamsah (the western lagoon) affected El-Bahtini in particular as many of its dwellers were

dependant economically on fishing in its waters,

- Lake Tamsah was considered a major attraction for economic development in Ismailia therefore it was important to upgrade the informal settlements that surrounded it,
- The two settlements lie within the most important Markaz and City in Ismailia Governorate,
- Living conditions in both areas were unacceptable and several environmental, social and economical problems were alarming,
- Proximity of the two settlements to the City centre and the potential of acting as suitable urban expansion areas for the growing population of Ismailia,

Potential for setting up a model for participatory upgrading that can be repeated in other informal areas in Ismailia and in Egypt.

3.1.3 Goals and Objectives

In line with the National Plan, the strategy of the project was to demonstrate and document a best practice for an integrated participatory approach to comprehensive upgrading efforts addressing the physical, environmental, economic, and social aspects of slum areas to achieve sustainable development through capacity building for all relevant stakeholders.

The project main objective was to improve the living conditions of the dwellers of the two informal settlements: El-Hallous and El-Bahtini, through a comprehensive and participatory upgrading approach. Specifically this was to be achieved through:

- establishing the institutional set-up necessary for carrying out the project,
- providing basic municipal infrastructure and enhancing the physical environment,
- improving the socio-economic conditions of the slum dwellers, and
- building the capacity of local authorities and communities in participatory local governance.

3.1.4 Target Beneficiaries

The total population that was targeted initially was estimated to be approximately 15000 settlers in both areas. The direct beneficiaries of the project were identified as follows:

- The fishermen who represent the most deprived sector of the community and are particularly impacted by a series of events and circumstances in the last few years (pollution, reduced catch, lack of access to the lakes, two-month fishing bans etc.),
- Vulnerable marginalized groups particularly women (widows, elderly)
- Unemployed youth and,
- Construction workers benefiting from direct employment through works generated by the project

Other groups which are not part of the slum community included:

- Local authorities dealing with the upgrading which benefitted from increased capacity in addressing upgrading projects in an integrated comprehensive approach.
- Actors in the upgrading of informal settlements at the national level through documentation of lessons learned and best practices and the organization of workshops and seminars to exchange experiences.

3.1.5 Expected Results

In the project design, several results were anticipated:

1. Increased mobilization of local authorities and local communities towards the identification and solution of the main problems affecting the project areas
2. Empowerment of local authorities and local communities for participation in decision making, planning, implementation and monitoring of upgrading activities
3. All inhabitants of the project area have access to paved lit roads and safe footpaths, piped potable water, electricity, latrines and connection with sanitation network
4. Health and school service available in the project area

5. A national broad based multi-disciplinary forum established in order to systematically address policy, legal and implementation issues concerning slum upgrading and urban planning and management.

3.1.6 Project Duration

The project was originally designed to be implemented over a period of three years starting in the last quarter of 2003. However, due to some administrative delays from the GOE side, the actual start of the project was in June 2004. In addition, due to the un anticipated load of infrastructure work that took place, all project partners agreed to extend the project until June 2008 which concluded the project in a period of 4 years.

3.1.7 Project Budget

Italy and Egypt signed the “Debt-for-Development Swap” agreement in Rome on February 19, 2001 with the aim of converting eligible Official Development Assistance (ODA) bilateral debt owed by the Arab Republic of Egypt to the Italian Republic into financial resources to implement development projects in Egypt.

The total project budget of the Project was EGP 18,744,300 which was mobilized through the Debt-for-Development Swap programme.

3.1.8 Project Setup

The project was nationally executed by Ismailia Governorate and implemented by the United Nations Development Programme (UNDP) using the national execution modality. The capacity building component of the project drew upon the expertise of UNHABITAT and was conducted within the Capacity Building and Training Centre which was established by the UNDP/Social Fund for Development in co-operation with the Ismailia Governorate. The project management arrangements at the Governorate level were as follows:

High-Level Committee for Participatory Slum Upgrading:

The Committee was headed by the Governor of Ismailia, and was entrusted with the responsibility of coordinating the efforts of all local authorities who were expected to be main actors in the upgrading process of the two slum areas in Ismailia. The purpose of this committee was to provide a model for future possible replication at the national level. This committee was also responsible for discussing policy and implementation related matters and make recommendations accordingly.

The Technical Advisory Unit (TAU):

The day-to-day management and backstopping of project activities was the responsibility of the National Project Coordinator, supported by the technical team of the Technical Advisory Unit (TAU), who reported directly to the Governor of Ismailia. The composition of the TAU was as follows:

The *National Project Coordinator*, Ms. Habiba Eid was recruited in June 2004. Members of the Technical Advisory Unit (TAU) were selected after an intensive and thorough selection process. Terms of References for each position were prepared. The technical team members were composed of an Upgrading Officer, Sustainable Development Officer, GIS/Planner and Architect/Civil Engineer. All selected team members had wide experience in planning and upgrading slum areas in addition to familiarity with international funded projects standards and approaches. The team started their work in September 2004.

The administrative and support staff of the TAU included Assistant administration officer, Secretary, Accountant, Driver and Messenger. All were recruited in September and October 2004.

In addition, a pool of short-term consultants were contracted to provide technical assistance to the project as needed. For instance, at very early stage of the Project, a Civil/Sanitary Engineer was contracted to validate the invoices submitted by the sewage contractors and review the execution of works against the approved designs and the submitted invoices. Also, a Social Development consultant was also

contracted to coordinate and supervise the implementation of two health awareness campaigns and assessment of needs of schools and youth centres in both areas.



Photo 4: TAU Meeting

Implementation Units (IUs)

In each of the two slum areas, a Project Implementation Unit (IU) was set up to direct and follow-up on a daily basis the physical and infrastructure component of the project. The IUs were staffed with land surveyors, assistant and social worker.. The IUs were responsible for ensuring the smooth implementation of physical and social surveys, overseeing contractors and sub-contractors, troubleshooting and mobilization and dealing with public queries and complaints at the site. The IUs were also entrusted with the task of facilitating the process of registering properties.

The Working Groups

In order to put the concept of participatory slum upgrading and urban governance into effect, Working Groups (WGs) were established. The composition of the WGs varied and was dynamic depending on the issues to be discussed and allowed for new members to join according to the needs of the project.

Responding to the immediate needs of the project activities, three WGs were established to address the issues of Physical Upgrading, Social Services and Sustainable Development. The WGs were composed of stakeholders including local NGOs, CBOs, women, youth, associations, community leaders etc. and were responsible for identifying and prioritizing issues and problems that needed to be addressed. The WGs acted as

liaison between the community and the local authorities, ensuring that the voice, needs and aspirations of the community were heard and addressed.



Photo 5: Initial Work Group Meeting with Fishermen

Office Set-up

The project had an office space, within the premises of Ismailia Governorate. The Project equipped the office with necessary computer hardware and software as well as necessary stationary and supplies. The technical specifications for necessary computers were prepared and procured through UNDP. A high-speed Internet connection was established and a website for the project was developed as part of its communication plan. The procured equipment included a GPS device and a digital camera in addition to a plotter, scanner and two printers. Satellite images for the two areas were also procured.

3.1.9 Project Start-up Challenges

There were many challenges that faced the project in different phases. Initially, the process

of fund mobilisation was real challenge. As agreed with the Ministry of Planning, a list of infrastructure projects that were identified within the Slum Upgrading Project, were approved and budgets were allocated to them in the Fiscal Year 2003/2004. However, the funds allocated neither matched with the project document nor with the amounts allocated as per the studies prepared concerning the costs of the project activities. On May 1, 2004, the National Project Coordinator and representatives from UNDP and UN-Habitat met with the representatives of the Ministry of Planning for the Canal Region to discuss the matter with him and it was agreed to wait till the end of the Fiscal Year 2003/2004 (30 June 2004) to transfer the funds.

After the fund transfers were made, the Project discovered that Ismailia Governorate contracted directly with Sinai Development Agency (SDA) and the Suez Canal Region for Water Projects to execute all infrastructure works in El-Hallous with a value of EGP 1,100,000.

This was done by direct order in violation to UNDP rules and regulations which requires a transparent tendering process. Despite this SDA requested the Project to pay the entire contracted amount with Ismailia Governorate without submitting any documents, price lists or items inventory.

In addition to the above, the Project did not find any detailed designs or as built drawings for the sewage network which required the Project to recruit a private consultant to prepare them. The consultant also prepared the tender documents for the sewage network.

All the issues above were resolved by end of December 2004.

IV. El-Hallous and El-Bahtini Social and Urban Profiles

4.1 Overview

El-Hallous and El-Bahtini are located south of Ismailia City to the west of El-Sayadeen Lake (western fishing lagoon). They were informally built and faced several problems such as lack of social services and basic urban services including clean water and appropriate sanitation systems. Many of the dwellers of the two areas suffered bad health and poor living conditions.

The informal housing in El Hallous and El-Bahtini was amongst the cheapest in Ismailia, which attracted inhabitants that were amongst the poorest of the poor. However, some settlers managed to invest in illegal apartment buildings bordering the two areas. Many of the inhabitants of these two settlements were originally fishermen by vocation whose income was very low. Other economic activities in both areas that complement the fishing activities include fishing nets weaving, mostly made by women, and fishing boats building and maintenance. The two areas also were inhabited by a high percentage of vulnerable groups (widows, elderly, handicapped and others).

Despite the above, the two areas had good potential for urban and social upgrading because of the following reasons:

1. availability of land for future expansion and urban development.
2. availability of number of buildings which were generally in good structural conditions.
3. potential for intensified expansion due to low building heights, which could absorb future growth of population.

The following paragraphs will describe the conditions of the two areas before the Project's intervention. This was done by conducting and analyzing the results of social and urban surveys

that were conducted at an early stage of the project lifetime.

4.2 Information Collection and Analysis

Before starting any interventions in the two areas and directly after setting up the Project Technical Advisory Unit which provided supervision over the social and urban profiles of the two informal areas; El-Hallous and El-Bahtini, the Project had to decide on several physical and social interventions to upgrade the two areas using a participatory approach that would respond to the immediate needs of the slum dwellers.

4.2.1 Social and Urban Surveys

The objective of the surveys done when starting the project was to draw a clear vision and evaluate the economic, educational, social, health and living conditions of the area, with the aim of identifying the various problems that face the population in the target areas. The analysis also aimed at identifying the reasons and circumstances that might have led to those problems, to assist in rearranging the priority needs in such a way so as to allow the project to address root causes and consequently have a quick return on the improvement of the living conditions of the inhabitants of the target areas.

The initial field surveys were conducted by external experts together with selected residents of the two slum areas. The reason for involving local inhabitants was tri-fold:

- Involvement of the community in the Project activities at the early stages.
- Awareness building among the community regarding the upcoming upgrading activities and how to play an active role,
- Establishing direct linkage with the community to be aware about the challenges that the Project was facing and responding to urgent needs of the community.

Information gathered from these surveys was used to produce the Survey Reports, which in turn informed further decisions and activities of the Project.

A preliminary assessment of the questionnaires and of the reports indicated that this exercise produced valuable and useful information, but not all of it was of equal importance. In future similar projects it would be advisable to design the initial information collection process to reflect specific project needs, rather than conducting a “standard” socio-economic survey.

During the Project implementation, a significant amount of information on the quality and timeliness of the implementation had been continuously collected by the community members themselves. This information was presented in community meetings and discussed with Project Management and with the contractors implementing infrastructure networks. This “community monitoring” proved to be very helpful and could be expanded and formalized in future projects.

4.2.2 Survey Questionnaire Design

The Questionnaire Form was made in such a way to contain four parts of questions and data, namely:

1. Data related to family members and social, educational and work position include: relation to the house holder, gender, age, birth place, social status, education and current work
2. Data related to the residence include: Accessibility by Vehicles, Age Of the House, number of floors in the building, number of units in the floor, number of rooms in the floor, availability of an independent kitchen, availability of an independent bathroom, source of potable water, way of sewage, way of lighting, building material, external painting material and internal painting material
3. Data related to economic status include: average monthly income, ownership of the property and ownership of the white goods

4. Data related to community participation include: Concept of CBOs, family participation In CBOs and willingness to share in area development. This issue was selected to cover the study and evaluation of the economic, educational, work, health and living condition.

4.2.3 Sample Size and Statistical Tools

4.2.3.1 Sample Size

In El-Hallous, the survey covered a sum of 624 families and 3022 individuals representing 100% of the Inhabitants.

The survey covered a sum of 1,101 families and 4,375 individuals representing 93% of the Inhabitants of El-Bahtini. A homogenized representation of the various dwellings of El-Bahtini was taken into account.

4.2.3.2 Statistical Analysis Tools

Statistical analysis included the study of the frequency distribution, arithmetic mean, standard deviation and correlation coefficient. Frequency Distribution was used in most questions in order to obtain the answered graphs of the various categories, such as the age distribution graph and the current work graph. The correlation coefficient was used in concluding the relations between the various data, such as the relation between the householder’s education level and the family income’s level, and the householder’s education level and the number of the family members.

4.3 Social and Urban Profiles

4.3.1 El-Hallous

The total population of El-Hallous in 2004 was 5500 inhabitants. Starting from 1974 some inhabitants who forced to migrate to other cities because of military activities in the entire Suez Canal region, returned and hence the settlement started to attract other families. This was mainly because El-Hallous was considered to be within a reasonable distance from the road that led to Ismailia city centre. This also supported its

dependency on the nearby services and infrastructure within the surrounding settlements such as Abu-Atwa and Adam.



Figure 10: Location of El-Hallous settlement

The location of El-Hallous near the fishing lagoon directed a lot of local residents to utilize this opportunity to work in the field of fishing sector either as fishermen or in activities that support this activity.

4.3.1.1 El-Hallous Social Profile

Through a thorough social field survey, the Project formulated a good picture of the social conditions in the settlement.

The following table documents the results of the survey that took place in the very early stages of the project.

Table 6: El Hallous Social Survey Results

Total Population	5500
Total males	2781 (50.57%)
Total females	2719 (49.43%)
Number of Families	1170
Persons per Family	4.7
Total Area (Feddan)	42.6
Total Density (Person/feddan)	129.1
Number of Buildings	780
Un-inhabited Building	82
Number of Families per Building	1.5
Rooms per Building	3.8

The following summarizes the results of the social survey:

- More than 12% of El-Hallous inhabitants were widows, elderly, handicapped and other vulnerable groups.

- The majority of the dwellers of El-Hallous came originally from Ismailia and they were mostly not married.
- Most of the dwellers of El-Hallous were below the age of 60. This indicated a fairly young population determining that the majority of the families were almost middle age or younger.
- The largest age group was those capable of work (between 18 & 60). The second largest age group was the children below 12 years old.
- The social survey showed that high illiteracy rates (35%).
- An analysis of the relation between the householder and the social status showed that 82 families represented 13% of the area families were women headed.
- The majority of women were housewives. This category formed more than 50% of the female population in El- Hallous. Only 16% of El- Hallous women’s population had permanent jobs in the government.

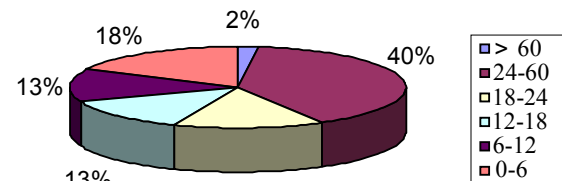


Figure 11: Age Group

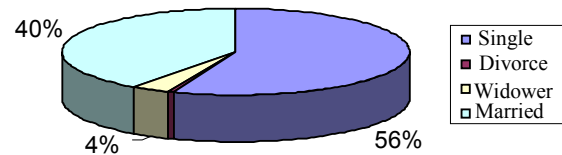


Figure 12: Social status

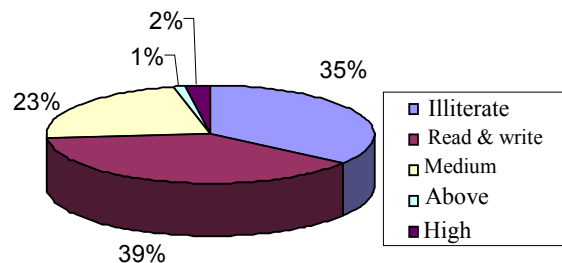


Figure 13: Educational level

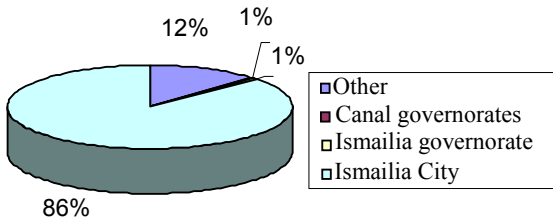


Figure 14: place of birth

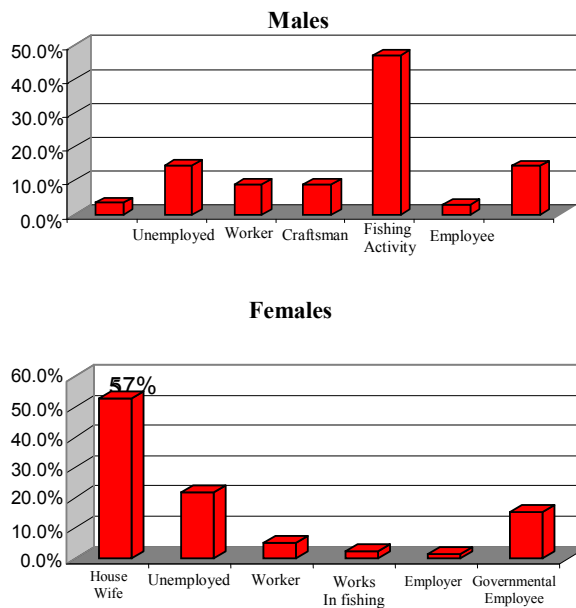


Figure 15: Male and Female Employment

- In terms of family structure, the average number of family members was 4.7. The small number of family members was attributed to the newly established families whose average members range between 2 to 3 per family.

Social Services

Social services in El Hallous included one primary school, one preparatory school, a youth centre, a community based organization and a mosque.

No public health facilities existed, Also there were no public service facilities such as post office or telephone office that existed in the area.



Photo 6: El-Hallous Preparatory School

Standard of Living and Economic Conditions

In order to assess the standard of living of the inhabitants, some indicators such as possession of certain household equipment and certain furniture items. The results were as follows:

- More than 80% of the inhabitants had basic white goods, such as fridges, washing machines, and stoves.
- 42 families did not have stoves, 50 did not have washing machines and 69 did not have fridges.
- Only 1% of the population had cars.
- Possession of carpets and rugs was rare.
- The majority of the population (about 80%) are low-income fishermen.
- The settlement had an unemployment rate of about 10% most of them are females.
- The main source of income for men was related to fishing, which was the main economic activity in the area.
- Only 12% worked in various government entities.

As for average income in El-Hallous, the survey results showed that 33% of the families in El-Hallous had less than EGP 250 per month, 57% had a monthly income ranging between EGP 250 and EGP500, 6% had EGP 500 to EGP 750 and only 4% of the families had a monthly income more than EGP 750.

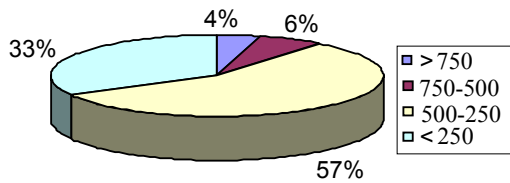


Figure 16: El-Hallous average income per family

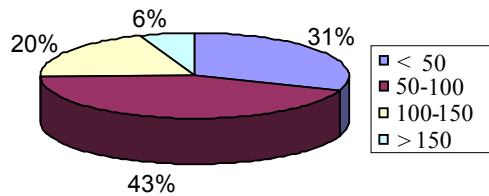


Figure 17: El-Hallous per capita monthly income

Regarding the per capita monthly income, 31% of El-Hallous' population had a monthly income of less than EGP 50, 43% ranged from EGP 50 to EGP 100, 20% ranged between EGP 100 and EGP 150, and 6% above EGP 150.

The statistics determined that the population in El-Hallous suffered from severe poverty conditions where almost 94% of El-Hallous' population fell below the poverty line (expressed as having less than \$ 1 per capita per day).

Other Socio-economic indicators

Based on some statistical analysis (correlation coefficient), some correlations were identified as follows:

- The higher the education level of the family the less the number of family members and vice versa.
- The higher an individual's education was the higher income s/he earned.

Tendency to Participate

At the early stages of the Project, it was important to assess the willingness of the community members to participate in community work or engage with the Project in participatory upgrading work. Results

demonstrated very low awareness about community work and NGO/CBO activities as follows:

- 53% or 338 families did not have any idea about what NGO/CBO's meant. 30% (183 families) guessed that CBO's only offered nursery services for children, 8% guessed that they provided illiteracy eradication classes and 9% guessed that they presented medical care or women club or religious symposiums.
- Only 3 families were affiliated to one of the CBOs.
- 79% of the inhabitants had no wish to participate in the development of the area, 2% might participate by funding, and 17% might participate with effort while only 4 families offered participation with experience.

4.3.1.2 El-Hallous Urban Profile

El-Hallous covered an area of approximately 42.6 feddans. The built form of the area lied within natural boundaries as it was surrounded by green fields from one side and a difference in the contour level on the other side, which construct a strong identity for the settlement. It was surrounded from the south west by the main road that links the settlement with Abu-Atwa, Adam and El-bahtini.



Photo 7: Fishermen Lagoon

El-Hallous had a total population of approximately 5500 inhabitants of which more than 12% were widows, elderly, handicapped and other vulnerable groups. The majority of the population (80%) is low-income fishermen.

Over and above the low-income of fishermen, the settlement has an estimated 10% unemployment rate. The land upon which El Hallous was built is public property and had been informally occupied by squatters (wad'e yad) some of whom could receive official land tenure in accordance with relevant regulations.

The first residential gathering in the area dated to 60 years ago. The residential gathering turned into a large informal area only during past 30 years as presented in the following graph.

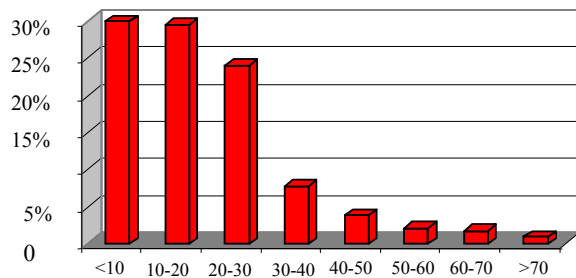


Figure 18: Building Age

The spatial urban analysis revealed that most of the buildings heights in the area are only one or two floors. The average areas of buildings were relatively small. Each building would normally include one small flat per floor or maximum two small flats per floor.

In terms of building conditions, the majority of the buildings were in fairly safe structural condition, however, there were still 30% of the buildings which could be considered as inappropriate shelter due to poor construction materials.

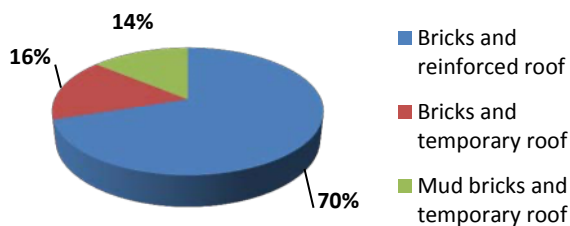


Figure 19: Building Materials in El-Hallous



Photo 8: Buildings with temporary roofs



Photo 9: Brick Buildings

Shelter Ownership

The land upon which El Hallous was built as public property and had been informally occupied by squatters (wad'e yad) some of whom could receive official land tenure in accordance with relevant regulations.

Almost 40% of El- Hallous houses were owned by its occupiers whereas only 11% were rented out. The remaining percentage (about 49%) had no official ownership documents.

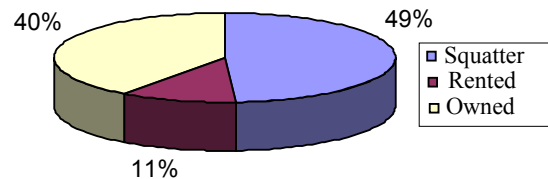


Figure 20: Shelter Ownership

Shelter Conditions

The shelter physical conditions and main slum indicators were tested to identify the urban challenges and to propose specific urban interventions. The following were the main results:

- 20 households lacked independent bathroom.
- 40 households lacked independent kitchen.
- 60 households lacked clean potable water connections
- 433 households did not have vehicle access to their houses due to narrow streets.
- almost half of the building in El-Hallous use roughcast for external painting.
- for internal painting, almost half of the buildings used limestone.

The following table summarizes the results of the urban survey.

Table 7: Results of Urban Survey in El-Hallous

Average age of buildings (years)	17.5
Average building height (floors)	1.9
Average units per floor	1.3
Average rooms per flat/house	2.5
Flats/houses without latrines	20
Flats/houses without independent kitchen	40
Households without regular solid waste collection	630
Flats/houses without connection to clean potable water	60
Households without access to vehicle-suitable roads	433

El-Hallous Urban Challenges

El-Hallous faced several urban problems which were identified by the Project at the beginning of the work. However, these urban problems could not be detached from other environmental, socio economic and administrative problems. The following is a presentation of the main urban issues identified by the Project.

a) Deteriorated building conditions

Almost 30% of the buildings in El-Hallous were considered inappropriate shelter according to national and international standards.

b) Absence of construction permits

The rapid informal construction of buildings was a trend in these types of settlements as it was considered a method to squatter on the land and it usually happened at night when there was low (or no) monitoring. Inhabitants used concrete building to make it more difficult for the local authorities to take the land back, making demolishing decisions more difficult to take and less possible.



Photo 10: New Buildings in Good Condition



Photo 11: Mud Bricks Buildings

c) Lack of infrastructure

The lack of appropriate sewage system was a major problem. It resulted in flooding the area with raw sewage and polluted the agriculture drains which end up in the fishing lagoon. This created a major public health concern in addition to creating a mobility problem in the area.

The weak water supply and frequent cut-offs resulted from inefficient capacity of the water station that supplied El-Hallous. Also there were high rates of wasted water due to inefficient water connections and lack of maintenance.

In addition, there was shortage and discontinued electric power supply and frequent cut-off.

Streets were not sufficiently lit due to lack of periodic maintenance to main street poles if any, and complete non-availability in the side lanes. This caused a major problem in the sense of safety and security,

d) Urban encroachment on agriculture lands

This was considered a typical problem for all similar areas where the available vacant land, with lack of urban management, could not accommodate the population growth and people tend to expand and build on the edge of the built form of the village. This expansion was usually on agricultural land that surrounded the settlement. Inhabitants, on one hand, tend to ignore agricultural land and reduce maintenance gradually until it becomes a normal vacant, and, on the other hand, develop urban pockets, which surrounded the targeted land with urban development until this pocket become part of the urban context rather than being productive agricultural land.



Photo 12: Urban Encroachment on Agriculture Land

e) Unpaved narrow access roads

This problem appeared due to lack of urban planning and the unstructured urban growth,

affecting mobility mainly motorized vehicles. For this reason, it was very difficult to guarantee vehicular access to most of El-Hallous roads. In addition, the narrow roads prevented the community from having proper wind circulation and sun exposure and therefore this physical problem had public health and environmental implications.

The narrow roads also made the installation and construction of infrastructure extremely as some roads was as narrow as 1.5 meters wide which prevented most construction equipment from entering the areas deprived from infrastructure.

f) Absence of solid waste management systems

The lack of solid waste management systems resulted in the piling up of enormous quantities of garbage in open spaces. Garbage which piled up even by the sides of the agriculture drain was composed organic and non organic waste that was disposed of randomly from households. Often piles of garbage were openly burned to get rid of them which caused serious air pollution problems.

The piles of garbage resulted in increasing number of rodents, flies and other harmful insects which had significant threat to public health.



Photo 13: Garbage Piling Up along Roads

g) Polluted agriculture drainage channel

The main drainage channels in the west of El-Hallous, as well as the sub channels in the east, are contaminated by more than one source of pollution. The major source of pollution was inappropriate disposal of household sewage into

the drain. Construction and municipal solid wastes also polluted the agriculture drain.

4.3.1.3 Development Opportunities and Constraints

Despite all the challenges that faced El-Hallous, there were still some opportunities for social and urban development.

Opportunities

El-Hallous had many urban development opportunities that could have been utilized to resolve some of its urban problems. These opportunities included:

- availability of suitable lands for future urban expansion (horizontal expansion), these areas could have been used to locate needed social services.
- The northern edge overlooked a magnificent view and could be utilized as a tourism attraction with tourist related activities at the local level.
- There were areas among the settlement cross roads [the ones north-east / south-west, perpendicular to the main road in the east], with potential for developing main roads with main entrances to this dense settlement. This was an opportunity to increase the permeability of the existing urban pattern.
- One and two story buildings that could absorb more population by increasing the number of stories (vertical expansion).



Photo 14: Magnificent View from El-Hallous

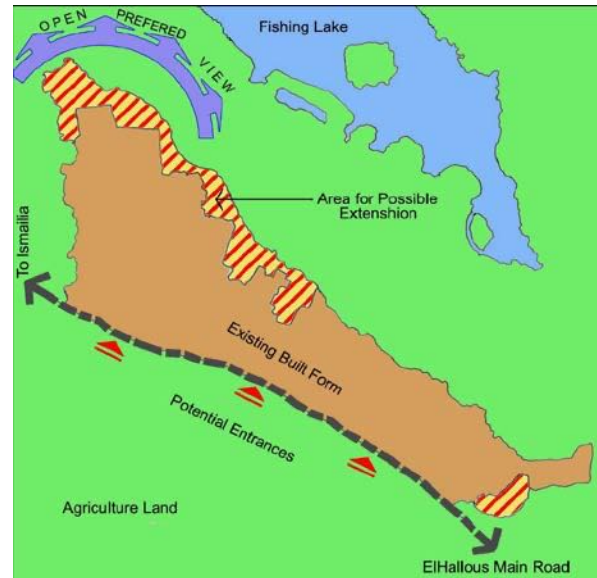


Figure 21: Permeability at proposed entrances, open view north edge & horizontal expansion

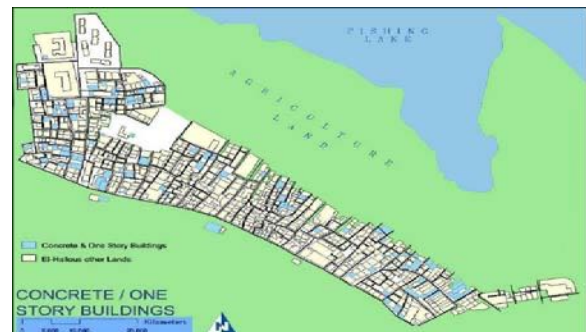


Figure 22: Possible addition of stories on the 1 story concrete buildings

Constraints

There were also some constraints that would define future growth or would play a significant role in constraining the future urban planning of El-Hallous. These physical constraints could be summarized as:

1. The agriculture land from the west and the north

This boundary represented a physical and natural limitation to urban growth because it consisted of a dense net of matured trees.



Figure 23: Development and urban growth physical constraints

2. The topography in the northwest

This was a constraint for development expansion because it was a slope that prevented further expansion and also its soil was very loose particles of sand that did not support concrete foundations.

3. The concrete construction that falls in the existing roads:

This represented the buildings in the road spans, which was a huge obstacle towards widening the main roads. The following figure depicts the building alignment and its role as an obstacle to the proposed road alignments.

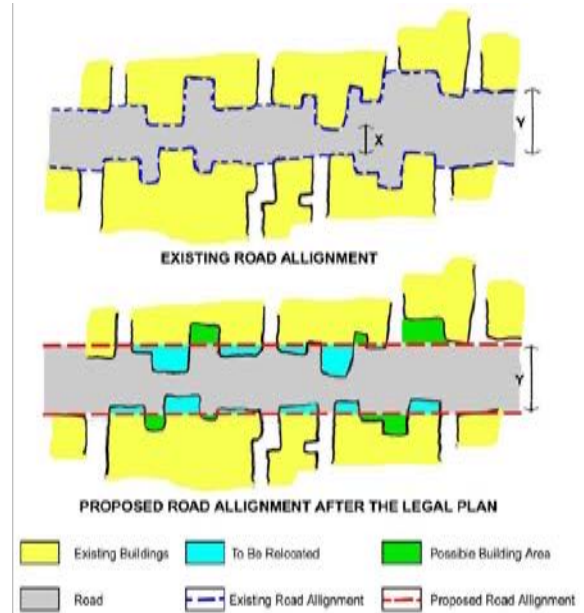


Figure 24: Different development constrains around El-Hallous

These development opportunities and constraints were only the physical (identifiable and measurable). It was extremely important to consider the social aspects behind this physical analysis, as there was a lot of positive social potentials and power that could work as a vehicle towards sustainable development for El-Hallous; in addition to that, the social constraints could be a serious development limitation that needed to be carefully considered.

4.3.2 El-Bahtini

El-Bahtini informal settlement was considered part of Abu Atwa area. It covered an area of about 28 feddans with a total population of 9398 inhabitants.

4.3.2.1 El-Bahtini Social Profile

Most of El-Bahtini population was originally settled in the area for generations until 1967 when they had to migrate to other cities because of war conditions. In 1974, many of them returned to the area which attracted other settlers due to its proximity to downtown Ismailia.

A social survey was made at the early stages of the project in order to draw a good picture about the area and plan the interventions accordingly.

Table 8: El-Bahtini Social Profile

Total Population	9398
Total males	51.06% (4800)
Total females	48.93% (4600)
Total Density	335 person / feddan
Total Family	1918 Families
Persons per Family	4.9 persons/ family
Total Building	721
Family per Building	2.66 Family / building
Rooms per Building	3.6 rooms/ building

According to the results of the social survey which were conducted in El-Bahtini at the early stages of the project, the following were determined:

- The area was characterized by a relatively young population.
- Only 13% was children up to 6 years and 5% were more than 60 years of age. This determined that the area attracted many young families and youth who were capable of work and could not afford living in the formal housing within Ismailia city.

- The average family size in El-Bahtini was 4.9 which again emphasized the fact that there were many new young families who inhabited the area.
- 139 families were sustained by women.
- 50% of El-Bahtini’s population was not married, varying between single, divorced and widower.
- Illiteracy rate is around 28% while only 7% of the population had university degrees.
- more than 24% of the men’s population work as fishermen or related to fishing
- 25% of those who were capable-to-work population was unemployed
- The majority of women (around 80%) were unemployed

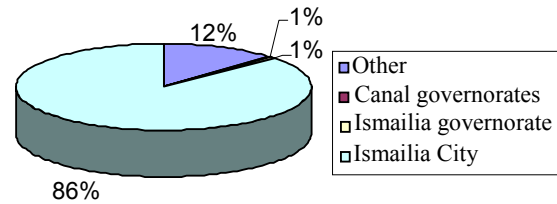


Figure 25: El-Bahtini Dwellers Birthplace

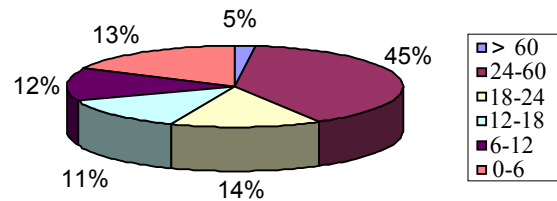


Figure 26: Age Group

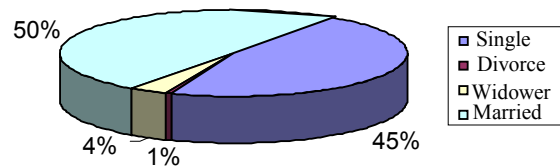


Figure 27: Social status

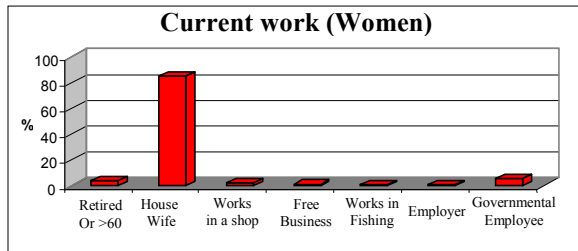
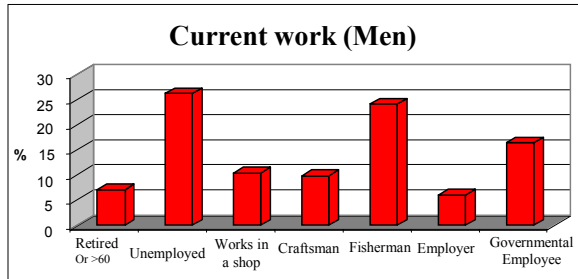


Figure 28 Male and Female Employment

Standard of Living and Economic Conditions

In order to assess the standard of living of the inhabitants, some indicators such as possession of certain household equipment and certain furniture items. The results were as follows:

- More than 80% of the inhabitants had basic and complementary white goods, such as fridges, washing machines, televisions, radios, fans and stoves
- 75 families did not have stoves, 87 did not have washing machines and 100 families did not have fridges
- Only 5% of the population had cars
- Few families had floor covers (such as carpets and rugs)

As for the average income per family, the social survey results showed that almost half of the population had an income less than EGP 250 per month and one third of the population had a monthly income ranging between EGP 250 and 500.

Regarding the per capita monthly income, 52% of El-Bahtini's population had a monthly income of less than EGP 50, 29% from EGP 50 to 100, 11% between EGP 100 and 150, 8% above EGP 150. This was an indication of the severe deteriorated level of both per capita and family incomes

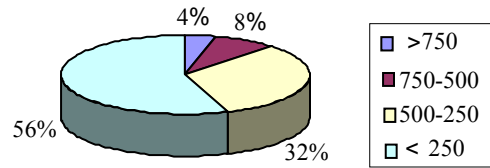


Figure 29: El-Bahtini Average Income Per Family

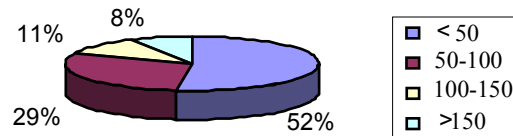


Figure 30: El-Bahtini Per Capita Monthly Income

Based on the results of the socio-economic survey, it was determined that El-Bahtini dwellers suffered from severe poverty conditions where almost 92% fell below the poverty line (expressed as having less than \$ 1 per capita per day).

Other socio-economic indicators

Based on some statistical analysis (correlation coefficient), some correlations were identified as follows:

- The higher the education level of the family the less the number of family members and vice versa.
- The higher an individual's education was the higher income s/he earned.

Tendency to Participate

Results of the social survey demonstrated very low awareness about community work and NGO/CBO activities as follows:

- 1076 families (about 98%) did not have any idea about CBOs.
- Only one family was affiliated to one of the CBOs.
- 87% of the inhabitants had no wish to participate in the development of the Area,
- 9% showed willingness to participate by funding,

- 1.2% showed willingness to participate with effort
- Only one family offered participation with experience.

4.3.2.2 El-Bahtini Urban Profile

El Bahtini covered an area of approximately 28 feddans and was inhabited by a small rural community about 70 years ago. The land was originally used for agriculture. In 1967 it was converted to be used for housing purposes due to the attractiveness of the area being close to Ismailia down town area as well as the leisure areas and beaches on Lake Tamsah. Around 303 housing units existed during that time.

During the period from 1965 to 1975, no new houses were built due to war conditions. Urban expansion of the area was resumed afterwards in an informal manner.

Shelter Ownership

According to the urban survey conducted at the early stages of the project, results showed that 72% of El-Bahtini residential units were occupied by owners while the rest were rented.

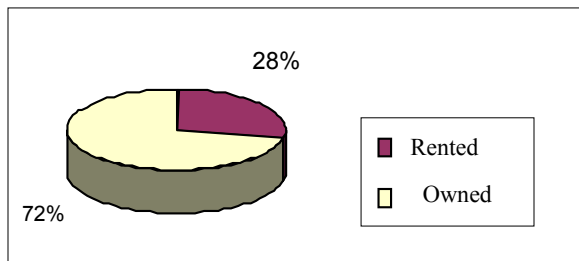


Figure 31: Residential Unit Ownership

Shelter Conditions

The shelter physical conditions and main slum indicators were tested to identify the urban challenges and to propose specific urban interventions. The following were the main results:

Table 9: Results of Urban Survey in El-Bahtini

Average age of buildings (years)	27.9
Average building height (floors)	2.76
Average units per floor	1.3
Average rooms per flat/house	2.3
Flats/houses without latrines	61
Flats/houses without independent kitchen	80
Households without regular solid waste collection	1070
Flats/houses without connection to clean potable water	33
Households without access to vehicle-suitable roads	467

The survey also determined that most of the buildings in El-Bahtini (about 73%) might be considered as structurally safe as they were built using bricks and reinforced ceiling. The remaining percentage of buildings would not qualify as appropriate shelter as they had ceilings made of temporary material or the entire building was built from mud bricks.

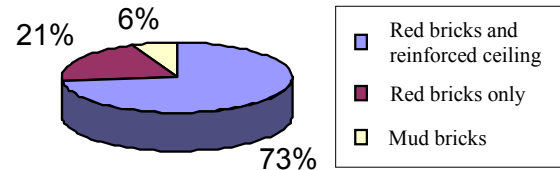


Figure 32: El-Bahtini Building Materials

For external painting, 64% of the houses in El-Bahtini used roughcast, 27% used limestone. About 9% of the buildings did not have any external painting at all.

For internal painting, 44% used limestone for walls while 34% used oil-based paints. The remaining units did not have internal paints.

In terms of age, the majority of buildings were built less than 30 years ago. Also there existed relatively old buildings which dated back to more than 70 years old.

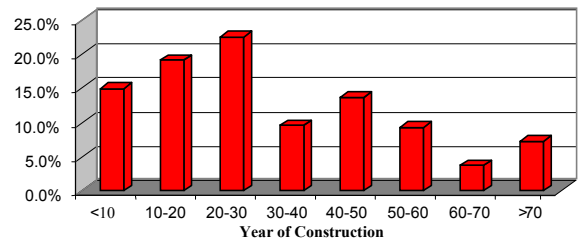


Figure 33: Building Age

El-Bahtini Urban Challenges

At the early stages of the Project, many urban challenges were identified so that interventions would be developed accordingly. The main urban problems identified were as follows:

- The area suffered lack of a sewage network. Underground septic pits were used for wastewater disposal or by connecting to the agricultural drainage stream which ends up in the west lagoon.
- Irregular urban expansions constituted pressures on the administrative and executive departments, and a burden on utilities and services. Among the causes that lead to continuation of this phenomenon are the weak legislative and executive confrontation of transgressions on agricultural lands, and the existence of loopholes and reconciliation ways for violating buildings.
- Lack of tenure security was one of the urban problems in El-Bahtini. There were some transgressions on government owned lands such as Abu Atwa Project, and construction on agricultural lands.



Photo 15: Public Access to Clean Water

Other problems related to the urban structure of El Bahtini were:

- Poor buildings which formed about 17.2% of total buildings were mostly concentrated in the center of the area and were mostly uninhabited and partly destroyed. Buildings made of mud bricks formed about 11% of total buildings. These were mostly rural houses, which had a comparatively large area.

- There was a relatively high crowding rate in the area. About 76% of the population (or 81% of the number of families) live at flocking rates ranging between 1.34 and 1.66 individuals per one room, despite the existence of uninhabited housing units in many unused extra built floors.
- Net population density was higher than the existing urban density due to narrow streets and lack of empty spaces and internal open areas.

Social Services Problems

Most of the land was used for residential purposes. Social services in El-Bahtini included one primary school, two preparatory schools and one youth center. Social services captured about 2.6 feddans.

- Services were ill distributed. Most services were located on the El Belajat (Beaches) Road and Ahmed Abu Zaid Road. This prolonged the walking distance especially for students.
- Yards and playing grounds were lacking at El-Bahtini's Youth Center (the Elbar Elthany Youth Center).
- Services were inefficient in general due to lack of resources and facilities, and poor technical cadres such as teachers and physicians. This was more apparent in the non-existence of a social unit or a society development organization.
- With a rate of approximately 34 students per classroom, flocking rate of students in the primary and preparatory stages was high. The quantity of extra classrooms required for the basic education stages was about 15.
- Technical and material capabilities of the local services were poor, especially septic tank sewage vehicles and garbage collection systems.
- Health services were deficient. A health unit was also lacking.
- Market places were insufficient and commercial activity was poor.
- Security and fire fighting services were insufficient.

Roads and Traffic Problems

- There were no defined entrances for Ahmed Abu Zaid Road. Also the entrance for El Belajat Road was not clear.
- There were traffic bottlenecks and accidents at El Belajat and Ahmed Abu Zaid Roads during school closing time due to students' scrambling and lack of street fences or bars.
- Internal roads were poor and narrow, rendering access for servicing, ambulances and fire fighting trucks difficult.
- The widths of the one street were uneven and different.
- The internal streets were not equipped with lighting poles, while many of those having ones did not work.

Development Potentials and Constraints

Potentials

Potentials that might be exploited in the development of El-Bahtini were classified as follows:

- Population capacity and urban expansion:
- The vacant lands and agricultural pockets.
- The deteriorated buildings
- Buildings with capability to add more floors
- Capacity of urban patterns (on a limited scale)

a) Vacant lands and agricultural pockets:

Vacant lands inside El-Bahtini formed about 37.7% of the existed urban zone, while the agricultural pockets were about 0.7 Feddans.

b) Deteriorated Buildings:

Deteriorated buildings represented an urban problem in El-Bahtini. They also formed

a problem to the urban capacity in terms of anticipated replacement and renewal operation in the area. The reuse of this area represented an opportunity for development.

c) Buildings with capability to add more floors (vertical expansion):

Buildings consisting of a ground floor in good condition and which have the capacity for more floors represented a suitable potential to raise population density and gradual replacement by vertical absorption of building. Area of this category was approximately 1.5 Feddans.

d) Capacity of urban patterns:

Incompletely grown urban patterns might absorb new houses to their maximum levels of pattern congestion and full family member numbers. Consequently, interfering and rarefied pattern patterns had a horizontal absorption capacity by filling the empty inner gaps, and a vertical capacity by increasing the heights, thus providing a potential for the previously stated absorption capabilities. Moreover, there was an internal absorption capacity resulting from completed families and formation of new families on the same built-up area.

Constraints

Urban growth restrictions in El-Bahtini could be summarized in the following points:

- The Fishermen Lake bordering the Southern direction
- The agricultural lands surrounding the area from the Southern and South Eastern directions
- The existence of only two main roads – Ahmed Abu Zaid and El Belajat

V. Project Interventions

5.1 Identification of Priority Interventions

Based on the social and urban profiles that were developed for both El-Hallous and El-Bahtini, the Project was capable to draw a good picture of the living conditions of the dwellers in both areas. Several meetings were conducted with the dwellers and their community leaders as well as executive bodies to listen to their needs and also provide them with technical facts and information about their areas.

When it came to identifying intervention priorities, severe steps were taken as follows:

- List of the projects as proposed by various departments (governmental, planners and dwellers) was drafted.
- Priorities were arranged as seen by each concerned group independently in the form of a matrix showing the objectives classified according to relative significance. Hence, the degree of projects' attainment of specific objectives could be measured. Consequently, lists of projects were arranged according to their priorities as conceived by the concerned groups.
- Listed projects were classified according to the following priorities:
 - Projects of Top Priority: consensus of all concerned departments and parties.
 - Projects of Medium Priority: had varying consensus.
 - Projects of Low Priority: did not represent a high requirement for all concerned departments and parties.
- Collective Agreement and Social Integration
 - Extent of agreement by the society on the establishment and priority of a project
 - Extent of society's homogeneity in relation, vocation and class
 - Volume of public activity and the extent of the rural society's approval

5.2 Physical Upgrading

Several physical upgrading intervention projects were conducted in both El-Hallous and El-Bahtini.

The infrastructure works included the completion of two potable water networks in both areas, installation of sewage systems in both areas, pavement of roads, modification of the electricity network and the establishment of a solid waste management system.

5.2.1 Potable Water Network

5.2.1.1 El-Hallous

The Suez Canal Authority (SCA) issued a limited tender for subcontractors to execute the internal water network in El-Hallous. It was agreed with the SCA that its maintenance department would execute the works in the area in the streets that were completed with sanitation works.

Once the main sewage line was completed, an executive study on the drinking water network for this area was made.

- The main eight-inch line was fully implemented with a length of 1600 meters.
- The main six-inch line was fully implemented with a length of 1400 meters.
- The main branch-outs of the secondary lines were 50% implemented.
- Connections to the buildings on the main streets were fully implemented.
- The main four-to-six-inch lines for eight streets were completed in a length of 3320 meters.
- Houses concluding contracts with the Water administration were being connected with the new water lines. Forty supplying connections had already been done.

5.2.1.2 El-Bahtini

The old potable water network was poor and incomplete; in addition the main line was made of asbestos. Moreover, some of the inhabitants informally connected their buildings to the main

water line which represented a major obstacle against the progress in executing the water network. Also, the narrow streets did not allow for big digging machines to enter them. Accordingly it was arranged with the Water Department of SCA to conduct a study and prepare a bill of quantities with the aim of having the urgent phase implemented in the narrower streets by small size local contractor normally responsible for maintenance of networks.

As a result, all the narrow streets and the streets that had the sewage network completed were fully implemented. Around 85% of replacement and reconditioning work were made to the water network of the area, with a length of 3,750 linear meters of four-inch pipes.



Photo 16: Informal water connections

5.2.2 Sewage Network

Construction of the sewage network in both El-Hallous and El-Bahtini represented the major activity in the Project in terms of budget and effort. This activity included the construction of two sanitation networks in both El-Hallous and El-Bahtini in addition to a booster pump station to deliver the sewage to the main wastewater

treatment plant in Serabiom area. The sewage works included the construction of:

- Main Pumping/drainage line;
- Pumping/drainage station and
- Internal draining/pumping network.



Figure 34: Completed Sewage Network in El-Hallous

5.2.2.1 El-Hallous Area

The sewage network in El-Hallous had been contracted directly from Ismailia Governorate to the Sinai Construction Authority which subcontracted the work to the Arab Contractors, a publically owned company, out by the construction department of the Arab Contractors.

Areas with some obstacles were defined together with some house connections to be finished before the pavement works to avoid digging again once the roads building was to be completed.

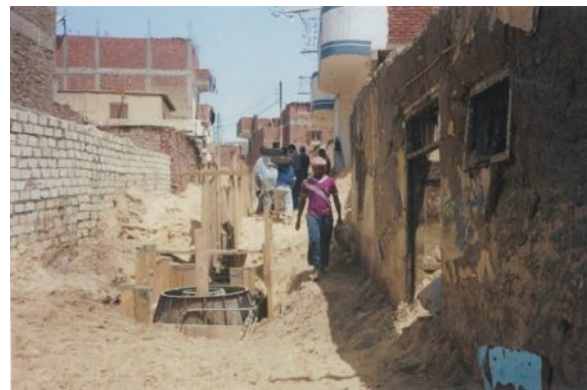


Photo 17: Installing Pipes for Sewage Network in Narrow Streets

5.2.2.2 El-Bahtini Area

At the beginning of the Project, sewage in El-Bahtini covered only El-Belajat Road with a distance of 650 m, Dair Elnaheya Road with a distance of 650 m and Dar Elmonasabat Street with a distance of 300 m since 1984. A temporary sewage pump station was in operation.

Dwellers living houses in the narrow streets around these areas had made haphazard connections using off specification pipes. Therefore, the area had been frequently exposed to sewage flooding. The problem of raised underground water resulting from rising water levels in Ismailia Canal and Tamsah Lake was an additional problem.

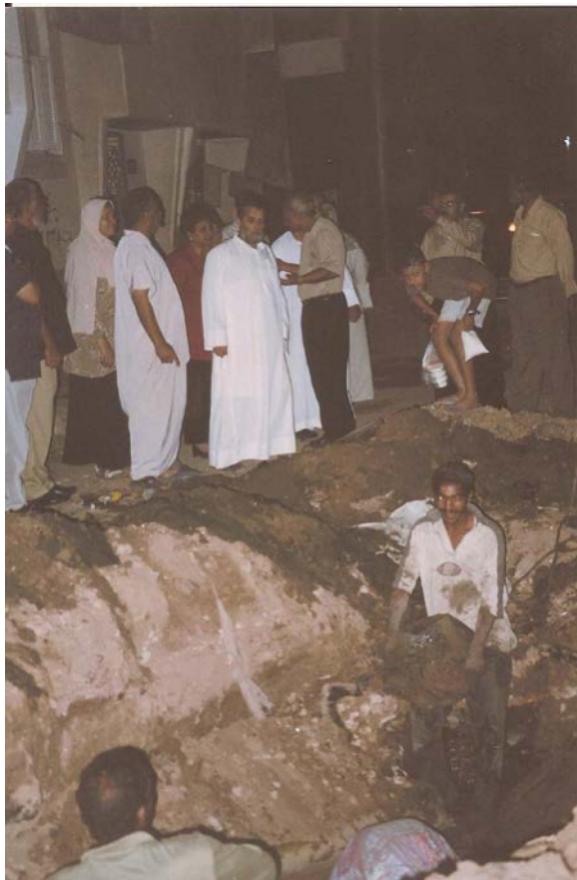


Photo 18: Soil Collapsing due to Sewage Problems in El-Bahtini

The Project managed to cover the entire area with sewage network as follows:

- 6000 meters of pipes were extended to the main complexes and secondary sewerage lines. Pipes were of PVC with retrieved diameters (150-500 cm).
- 613 square sanitary manholes were established (60 x 60 cm).
- 538 manholes were established in the main and secondary complexes.
- All construction was finished on 26/12/2007 and was handed over to the Sewerage Directorate at the City Council for operation and maintenance.



Figure 35: Completed Sewage Network in El-Bahtini

Box 1: Water and Sanitation Work Groups

Sanitation:

Six Work Group (WG) meetings were conducted with the involvement of the Community Leaders representing both target areas and with the participation of the project's consultants as well as Ismailia Governorate officials. The WG meetings resulted in resolving many of the problems that delayed the process of starting up the construction of the Sanitation network in El-Bahtini.

As for El-Hallous, the WG meetings resulted in speeding up the process of finishing the electro-mechanical works in the main pump station serving both areas.

Potable Water:

A meeting was conducted with the representative of Suez Canal Authority (SCA), which is the body responsible for the execution of the potable water network in both areas. SCA indicated that they will start their works after the completion of the sanitation network. Discussions were ongoing with SCA to start their work in areas and roads where the sanitation network was completed rather than waiting until the 100% completion of the network.

- A street perpendicular to the main road of El-Hallous was constructed, filled up and graded by Ismailia City Council. A sub base was supplied and spread.
- After completion of the sewage network, water connection and house manholes, a sub base was spread on three streets vertical to the main street.
- Within the boundary skirting framework of slums, the body of the west stone road neighboring the residential and agriculture block was completed.

The project also intervened in the rehabilitation of the existing roads and streets to be properly constructed and furnished with street lighting.



Photo 19: Pavement of El-Hallous Main Road

It is important to mention that In El-Hallous, the project ordered the executing contractor to work on the main road to facilitate traffic movement. However, work was delayed due to the slow activities of the sewage works, delay in the operation of the sewage station of El-Hallous which was connected to the main station of Taawon Area that receives El-Hallous's sewage output.

5.2.3.2 El-Bahtini

The project undertook the construction of a complete road network in El-Bahtini Area. This involved the construction of the main roads in the area as well as the pavement of the narrower lanes with strong interlocking block. Six-inch PVC rainwater drainage pipes were connected to adjacent sanitary sluices. Some of the narrow roads were paved using different materials which were easier to use and had longer life than conventional asphalt.

5.2.3 Road Networks

5.2.3.1 El-Hallous

The following interventions were accomplished:

- The main road construction works in El-Hallous were completed
- Microbus parking sheds were installed in coordination with the Parking Management of Ismailia which promised to provide transportation vehicle services for the students and inhabitants between El-Hallous and Ismailia city
- All the septic manholes in El-Hallous were raised to the level of the main street surface.
- Curbstones had also been fixed alongside the whole road.

5.2.4 Electricity Network

5.2.4.1 El-Hallous

- Studies to replace the overhead cables by underground ones were undertaken.
- All lamp posts that represent a potential danger were studied to be relocated.
- All random cable connections were removed.



Photo 20: Old Aerial un-insulated Electricity Network

5.2.4.2 El-Bahtini Area

The electricity network of El-Bahtini area was of an aerial non-insulated wire type. There were 180 poles that were adjacent to building balconies and windows. Moreover, there were poles in the middle of the streets and lanes hindering construction of sewage, water and telephone utilities. The diameters of the house feeding cables were also below standard size, thus short of the consumers' needs especially with the growth of building activities. This was confirmed by the various complaints received from the dwellers in this respect. A cost study was made taking various considerations into account, mainly the street widths of the area, the existence of poorly established buildings that

might cause disasters and access difficulties. It was therefore decided to have the project done with insulated aerial cables and to replace the old poles. An estimated bill of quantity including electric poles, insulated cables, switchgear boxes, substations and low voltage switch boxes was approved.

The following was accomplished:

- Sixty six new poles were fixed and sixty close-to-house poles were removed.
- Converters were increased to seven.
- Insulated cables of the main streets were extended as were those for internal streets and lanes.
- Scrap poles were delivered to Taawon Network as a step to form a receiving committee subordinated to Ismailia City Council and 1st kism³, for disposition.
- The new step-up substation that had been implemented by the National Water and Sewage Organization was supplied with a one-hundred meter electric cable.
- A 55mm insulated aluminum wiring with a length of 13,000 meters was completed.
- A 35mm insulated aluminum wiring with a length of 9,000 meters was completed.
- A 25mm insulated aluminum wiring with a length of 6,000 meters was completed.
- A 16mm insulated aluminum wiring with a length of 6,000 meters was completed.
- 330 trays with clamping were fixed.
- All the poles were painted except the clamping parts and porcelain insulation.

5.3 Social Upgrading

5.3.1 Workgroup Meetings

The following workgroups were conducted:

5.3.1.1 Social Issues

- Women from El-Hallous and members of the executive authority met to discuss the problems facing the women in the area such as land tenure, house

³ Kism is an administrative unit within a city which can be considered as a neighborhood

ownership, house demolition, and the difficulty in mobility due to the ongoing digging works as well as the danger of electricity cables passing close to houses.



Photo 21: Workgroup Meeting on Social Issues

5.3.1.2 Utilities and Infrastructure

- Representatives of the executive authority, locals, and representatives of the local community council met to discuss the problems hindering the execution of the infrastructure and utilities in El-Hallous and El-Bahtini.



Photo 22: Workgroup meeting on Infrastructure

5.3.1.3 Participation of Volunteers

- A workgroup was conducted to discuss issues related to youth participation from El-Hallous area and their cooperation with the local authorities to complete the project. Other issues

related to education, dropouts, as well as prevalence of smoking and drug addiction. Moreover, issues related to the prevalence of rodents, the need to provide a permanent location suitable for the execution of small projects such as waste removal, boats building, fishing nets weaving, tree-planting and painting of houses, were discussed.

5.3.1.4 Raising Community Awareness

National ID Cards

- A workshop to raise awareness about the need and importance of acquiring a national ID took place in El-Hallous youth centre.
- 200 IDs (108 for women in El Hallous and 92 for women in El-Bahtini) were issued. Additional 100 national ID applications were provided for women (80 in El-Hallous and 20 in El-Bahtini) which would help them in acquiring their food supply cards (Betaka Tamwinya).
- By the end of the Project, 97% of the women in El-Hallous area issued national ID's.



Photo 23: Issuing ID's for Women

Voting Cards

- Sessions to raise awareness about the importance of voting in the different political occasions took place. Dwellers asked that procedures to obtain voting cards be facilitated for them.

- The two areas were divided into several groups. Each group headed by a volunteer responsible for organizing the collection and transportation of locals interested in registration.
- The first campaign was conducted in El-Bahtini area where the project provided the means of transportation for 27 women and 3 men.
- Voting cards were ready after three months of applying.

Community Mobilisation and Empowerment

- A number of meetings were held to study the various social aspects and problems facing the two communities.
- An opinion poll was conducted in El-Hallous area (25 families) on issues related to the inconsistency of garbage collection, which caused the spread of rodents and diseases, the families expressed their wish to establish a garbage collection service against monthly payment.
- A volunteer youth group was mobilized in order to participate in cleaning campaigns.
- Literacy classes took place in collaboration with the General Authority for Literacy and Adult Education. The final exam took place in Mostafa Kamel elementary school in El-Hallous.
- Regular checkups on the beneficiaries of revolving funds for boat building and fishing nets weaving took place to assess the impact of those funds and the possibility of providing other funds for more activities.

- A field visit to the Giza Public Cleaning & Beautification Agency took place, to discuss how the crisis after the withdrawal of the foreign companies for garbage collection was managed. Moreover, alternatives and execution plans put by the agency, as well as garbage collection methods from houses, stores and informal housing were discussed.



Photo 24: Volunteers in the Cleaning Campaign

Awareness Forums

In collaboration with competent bodies, the project organized eight awareness forums during the period from December 2005 to December 2006. Beneficiaries in such forums reached 250 students and 163 women. The forums addressed highly significant issues which are related to the community problems such as:

- Smoking and its harmful effects,
- Cleanliness and environment decoration,
- Avian flu, transmission and prevention,
- Oral diseases and prevention methods where 90 tooth brushes and tooth paste tubes were given out,
- Drinking water and methods of its saving,
- Personal hygiene and cleanliness for children.

Box 2: Health Awareness Campaigns

- 1- A seminar on health care and the significance of personal hygiene was held for women and all family members, along with distribution of hair insect infective and protective medicine.
- 2- Seminars on tobacco smoking and its severe harm to human health were held for students, in coordination with the Egyptian Smoking Abstention Society.
- 3- Seminars on Avian Flu and implicit risks to those who associate with infected birds and to society as a whole were held. Education brochures were distributed with information of the disease, precautions to be taken and measures to avoid it.
- 4- In collaboration with several departments of the Ministry of Education, the Suez Canal University and the Health and Population division, four workshops took place to cover issues related to First Aid, environmental education and personal hygiene. Workshops were attended by local residents, parents, pupils as well as teachers (total of 291 persons).
- 5- An environmental education workshop took place at El Shaite' school in collaboration with Suez Canal University (Faculty of Science) to educate pupils on environment related issues.
- 6- A health awareness workshop on personal hygiene took place in Mostafa Kamel School with 90 pupils attending and 50 toothbrushes and toothpastes distributed among them.
- 7- Brochures and booklets regarding parasites prevention and transmission were distributed. In addition, 70 bottles of Anti-lice were distributed.
- 8- A workshop about cleanness as disease prevention took place in Abdel El Salam Aref primary School in El El-Bahtini area. Toothbrushes and toothpastes were distributed.
- 9- A workshop attended by 9 activity teachers in El-Hallous and El-Bahtini schools took place and it recommended the following:-
 - Blood tests for pupils in both areas to be run after mid-term holidays by the health insurance department.
 - Those who attended the workshop help identify new pupils to participate and apply for health insurance cards for them.

- Formation of a Red Cross group for health assistance as well as the formation of a health education group to provide health workshops.
- Identification of acute diseases among the pupils in the five schools.

Beneficiaries	Attendance	Total	Distributed
Pupils	80 males/70 females	150	Toothpaste and brushes
Pupils	70 females	70	Anti-lice Medicine

5.3.2 Other Social Upgrading Activities

The Project identified several negative phenomena in El-Hallous including:

1. The spread of smoking among preparatory school pupils.
2. The lack of any women's activities
3. The spread of garbage.

The Project set an action plan that cared for women, school pupils where two groups were formed:

- A group for works and handicrafts of women and children
- A group for school drama activities

The aims behind the action plan were as follows:

1. To activate women's role and teach them skills which would enable them to supplement household income,
2. To provide children in schools with meaningful extracurricular activities and discover talents through workshops, and
3. To change individual and collective attitudes and behaviors towards their surrounding environment.

5.3.2.1 Health Care Program

There were many health problems in the two areas due to shortage of water supply, problems with sanitation systems, lack of clinics and other public health problems.

Two workgroups were conducted to discuss health improvement issues and needs. The

workgroup meetings were attended by 98 participants. The majority of participants were local residents and the rest were from the City Council, Nefisha villages, Suez Canal University, Health Affairs and District 1. The main concerns raised by the participants were the spread of smoking and drugs in schools.

Due to shortage of water, sewage and garbage disposition services, lack of environment conservation awareness coupled with lack of health units, El-Hallous and El-Bahtini suffered some complications related to public health with the students, and fishermen and inhabitants as well.

Health status in El-Hallous and El-Bahtini

Two groups were targeted to investigate their health conditions. These are Fishermen and School Students. Blood tests and general health inspection were conducted and results were documented as follows.

First: Fishermen health condition

There were two kinds of common diseases among this group.

- Chronic diseases like bilharzias – widely spread among fishermen who were not vaccinated.
- Other ailments like backache and rheumatoid arthritis that attack fishermen due to the nature of their work.

Second: Student health condition

The low standard of both the health care and the medical insurance services available to children in schools represents a significant health problem for this group. El-Hallous students receive medical services at Abo-Atwa clinic which was at a distance about 6 km from the school. In addition, the existing clinic provides medical care for 21 other schools in Abo-Atwa and surrounding areas - despite the shortage of doctors in some specialties. Therefore, pupils were sent to the Health Insurance Complex or Pupils' Hospital in Ismailia to receive their

treatment. This caused another problem for parents and pupils.

- The bad health conditions of the pupils
- in the two areas were due to parents' ignorance of the importance of health care.
- The role of the school health nurses was insufficient.
- Pupils had to wait for a long time in queues to receive medical treatment.
- There weren't enough doctors in the public clinic.
- The low health standard of many pupils affects their learning progress (the rate of success was 60%)
- Low standard of personal hygiene for many pupils, especially in the primary stage.
- Low standard of emergency medical kits and lack of trained staff who can manage first aid in schools.

Actions taken to face health problems

In association with the Health Insurance and Educational Administrations, training sessions were held to educate activity teachers to handle emergencies and manage first aid. Besides, campaigns were launched to raise students' awareness concerning personal hygiene and the importance of environment. Tooth paste and brushes were distributed among pupils as well.

The Project continued to hold awareness raising and health care seminars and medical campaigns in coordination with the Health Affairs Directorate. It provided iron capsule vitamins and hemoglobin analysis. Some prescriptions were paid for poor. The rural female leaders accompanied inhabitants to medical boards to help them avail of programs of having medical treatment on the account of the Government.

Health insurance was not extended to fishermen and members of their household. Health Coverage refused to issue health cards to this category due to lack of a ministerial resolution to this effect.



Photo 25: Health Awareness Campaign for Pupils

In the above discussed issues related to public health whether of the fishermen, students or inhabitants, a medical center in Saba' Banat Unit was allocated to provide service to El-Bahtini inhabitants. This activity was supported by a sum of \$ 100,000 by the UNDP.

Actions to improve Family health

Health insurance services are not available for fishermen and their families in Al-Hallous and Al-Bahtini areas since they are not listed by the ministry among the beneficiaries of such services. To face this problem, a medical center was set in Saba Banat to serve the people of Al-Bahtini, financed by the United Nation Program which allotted \$100,000 for this center.

- In association with Health Affairs Directorate, the project set up:
 1. Medical service center which provided check-up for 67 cases (family planning, stomachache, and children diseases) and free treatment.
 2. Two medical service centers supported by the Faculty of Medicine, Suez Canal University. The first center treated the fishermen aged from 13 to 65 (who suffered bilharzias, arthritis, bone diseases, and hepatitis C). The second center was meant for women in Hallous, who mostly suffered from anemia.
 3. During campaigns for promoting cleanliness in the main streets of the two areas, in association with the

City Council, more than 300 tons of garbage was eliminated.

4. Campaigns for fighting rodents, in association with the Faculty of Agriculture (Suez Canal University) where 200 rattraps were set up, and 200 kilos of rats banc was used.

Medical Campaigns in Coordination with the Health Affairs Directorate

Eleven medical campaigns were organized by the project in Al-Hallous area since October 2004 as follows:

- Two campaigns to combat rodents with a total beneficiaries of 400 households during which 320 kg of wax poisonous substances covered 50% of the area houses and garbage collection sites. Two hundred traps were used by the public.
- Seven medical campaigns from March 2005 to December 2007 were launched and included providing medical services in the areas of family planning, infant diseases and internal medicine (particularly local diseases related to the fishing profession) such as orthopedics, hepatitis and bilharzias. These diseases affected about 3.5% of the population which required collective attention.
- The number of beneficiaries reached 328 women and children.
- The project organized a blood-testing campaign among the pupils of Mostafa Kamel primary and preparatory schools because of the poor standard of health of pupils resulting from hemoglobin deficiency. This required giving out vitamins to pupils.
- The Project organized three campaigns in Al-Bahtini area for general cleanliness which covered the whole area during which 1500 tons of garbage were removed. Two medical campaigns were organized to investigate the causes behind the spread of bilharzias with 200 beneficiaries receiving collective medical treatment. Another campaign for tracing the disease was organized with 10 beneficiaries included.

- Stool and urine tests were conducted among 200 persons of various age groups in El-Hallous area in collaboration with the Health department to identify people with bilharzias.
- Six volunteers assisted in distributing containers and obtaining the samples.

The results showed that the percentage of infected people was higher than normal therefore a group treatment was distributed among the local residents, as well as pupils, except for small children, pregnant women and those suffering from liver diseases. It was also agreed that local units would be contacted to verify the reasons for the prevalence of bilharzias in the areas. The issue was addressed by providing a medical convoy in cooperation with the Suez Canal University for environmental and community service issues.

5.3.2.2 Educational Development Program

The project focused in its first stage on youth. The educational development program was directed to the students of five schools in the two areas:

El-Hallous : (two schools)

- Mostafa Kamel Primary school, including 507 students (boys and girls).
- Mostafa Kamel Preparatory School, including 189 students (boys and girls).

El-Bahtini : (three schools)

- Abdel-Salam Aref Primary school, including 534 students (boys and girls)
- Al-Shaite Preparatory School for girls, including 248 students.
- Al-Bahtini Preparatory School for boys, including 103 students.

The Project held many sessions to discuss workplans and specify the educational problems that needed to be addressed. This was carried out in association with the Ismailia Education Directorate, the School Buildings Authority, school directors, teachers, and parent councils. The sessions concluded that the major problems were:

- 1- Deteriorated conditions of school buildings and water closets. This was one of the reasons why girls drop out of schools.
- 2- Classrooms were poorly lit and ventilated.
- 3- Economic conditions forced students to leave school and join the work place to help their families who were either unable to pay tuition fees or were not aware of the importance of learning.

The Project, in association with parents' councils and teachers took the following measures:-

- Tuition fees were paid for students whose families faced financial problems (about 220 students in both Primary and Preparatory stages.)
- Small loans were provided for fishermen and female breadwinners to help them buy boats and open new markets, taking into consideration the bad conditions of the pupils.
- Promoting the cultural awareness for the pupils and encouraging those who are talented artists to participate in events and drawing or poetry competitions in the two areas.

As a result, the number of dropouts in these areas decreased from 68 students to 27 students. The Project also planned to create a healthy atmosphere for the pupils by implementing the following:

1. Maintenance of school buildings, including lighting and painting as well as repairing drain pipes.
2. Providing more green areas in addition to wastebaskets inside schools.
3. Selecting five pupils in each school to be friends of the Project to maintain the outputs beyond the project timeframe.
4. Distributing flags of the state and the city to enhance sense of citizenship.

The Project in collaboration with Parent and trustees Councils adopted the following:

- Coordination was also continued with the school managements in support of such students' conditions.
- Designing cultural level enhancing programs for the schools to identify the

artistically talented students and encourage them to participate in celebrations, painting contests and poetry reading in the two Areas

Education and dropouts

Names and numbers of the dropouts for the school year 2006-2007 were obtained in order to study the reason behind their withdrawal from education and try to find solutions in collaboration with the schools, parents and boards of trustees. The results of the project's investigation on the causes for this phenomenon revealed that financial problems, the need to assist parents in fishing, lack of awareness of the importance of education, divorce cases (family problems), lack of interest among pupils themselves and engagement or marriage among young girls were the main reasons behind school dropouts.

Actions Taken

- Families were visited at their homes to raise their awareness regarding the importance of education.
- School fees and school uniforms were provided to a big number of pupils in the five schools of the two areas.
- An agreement with the director of the Abdel El Salam Aref primary school was reached (which had the highest number of dropouts, 16 dropouts). Dropouts whose main reason was helping parents in fishing were granted one extra day off school in coordination with their parents to enable them to continue their education.
- It was suggested that in cooperation with the head of the Student Affair Association in the Ministry of Education that case studies made by the schools would be reported to the association which will support in need cases with L.E 20 for each.
- Education drop-outs among the pupils of the five schools of Al-Hallous and Al-Bahtini areas reached 78 cases during the school year 2005/2006 with 56 male and 22 female pupils.
- The number decreased during the school year 2006/2007 to reach 52 pupils (42 males and 10 females)
- An increase in the drop-out rates is expected once more to reach the level recorded in 2005/2006 with an expected number of 75 pupils

dropping out of schools (57 males and 18 females). This projection is based on attendance sheets since the beginning of the current school year. Pupils mainly drop out to help their families in fishing activities.

These activities had a great effect in the reducing school dropouts from 68 to 27 in the two Areas.

Students' Activities

- School exploratory visits were carried out to find those who had the will to participate in school activities. Children choir teams, scout teams, and theatrical groups were formed and a school play was prepared with roles assigned to individuals where rehearsals were carried out in classrooms during the school breaks.
- The experiment faced some challenges at its beginning including challenges in gathering pupils, discovering their talents, and the shyness of some during the rehearsals.

5.3.2.3 Handicrafts for Women and School Pupils

- A working group was formed from the area's women and pupils to teach them handicraft skills using some natural materials from the surrounding environment such as stones, tree leaves, and seashells. Some of these materials had led to the spread of rodents and insects and their re-use into new products therefore served several purposes.
- Using old fabrics and cloth was an idea that drew the attention of women in the area who were used to re-using and recycling cloth and other home material. The idea of making bags out of old jeans for example was welcomed by community women as a useful idea.
- One participant expressed the desire to buy the material needed (wholesale) and resell it to women at market prices which provided a job opportunity for one of the women in the area of business and new markets were found for handicrafts that exploited unused natural raw material,
- Another craft the women learnt was how to make figures and tableaus using seashells, which are a material easily at hand in the area.

5.3.2.4 Illiteracy Eradication

- The project was keen to confront illiteracy by testing innovative ideas that would contribute to attracting citizens to illiteracy eradication classes. The project therefore adopted the motto “Village without Illiteracy”.
- In cooperation with Development and Environment Society the project coordinated with the Branch of General Organization of Illiteracy Eradication and Adult Education of Ismailia. In 2007 two classes were functioning at El-Hallous Youth Center, with 38 female and 2 male students.
- For the two classes in El-Hallous, a certification exam was conducted for 73 students (16 men/57 women) in Mustafa Kamel School in El-Hallous. 48 passed the exam (15 men/33 women)
- Certificates and awards were presented in coordination with the Illiteracy and Adult Education Department in Ismailia governorate.

Box 3: Illiteracy Eradication

The number of beneficiaries in the illiteracy eradication project in Al-Hallous area reached 59 males and females, 58 of who passed the final test. Forty new learners registered in the second round of IE classes (38 females and 2 males). The project conducted the following activities to encourage people to join illiteracy eradication classes:

- 1- Conducting applicants' writing skill test at Al-Hallous Youth Centre instead of having them travel to the Public Authority for Illiteracy Eradication Headquarters,
- 2- Distributing bags and some commodities to learners,
- 3- Distributing books and stationary to learners,
- 4- Linking the beginning of loan-provision procedures to obtaining the IE certificate,
- 5- Organizing trips to historic places in Ismailia for learners, and
- 6- Arranging medical convoys to time with educational convoys to offer medical services to the public.

Interest in IE classes increased for the following reasons:

- 1- Drivers were unable to obtain driving licenses until they had an IE certificate,
- 2- Women's desire to follow their children homework,
- 3- Linking obtaining loans to start small businesses to the obtaining of IE certificates.

5.3.2.5 Youth Development Program:-

The Project set meetings with young people in the two areas to identify their hobbies and needs.

First: Al-Hallous youth centre

- Increased lighting power by providing the center with a transformer of 63 Kilo Volt, and building a special chamber for it.
- Provided the gym with all necessary equipment.
- Built a stage to be used for various events, and furnished it with seats and tables.
- Provided maintenance of the steel fence around the triple playground.
- Equipped the centre with computers and network for an internet café.



Photo 26: El-Hallous Youth Center

Second: Al-Bahtini Youth Center

- Equipped the centre with computers and network to create an internet café.

With the completion of the road network in the two areas, the Project built a shaded area for waiting passengers (three shades for each area) and arranged with the city council to provide a bus for transferring passengers in the two areas.

Pupils from the El-Hallous schools, who participated with handicrafts and paintings in the summer activities of the Environment and Development Association's library, were presented with symbolic awards.

Box 4: Empowering Youth Centers

The two YC's are functioning as they used to but with some additional support that they got from the project.

Students and teachers from schools go there to do performances, parties and older students go to use the gym and internet.

Managers appointed by Government. They are civil servants.

The project contracted ADE to conduct many social services. ADE uses the Youth Center in the following:

- outreach to the young population
- a place to hold some workgroups that concern youth
- Holding some meetings with the community. The Center acts as a meeting place close to everyone in the area

The management staff is paid by the government

Mostly young people in the two areas are Volunteer staff.

The money for operational costs and activities comes from Government (Supreme Council for Youth and Sports)

Handicrafts

- In collaboration with the Faculty of Education Suez Canal University, meetings with boat builders and fishnet weavers took place to evaluate their handicrafts skills and techniques and their development possibilities.
- The idea of utilizing local materials such as shells, nets and rods in the different handicrafts to emphasize the unique style of the area's fishermen.
- Provide information on innovative approaches to the use of rods for handicrafts.
- It was agreed that samples was displayed and developed and young men and women was trained by professors of

the Education faculty to develop new techniques.

- It was agreed that campaigns to raise awareness would be organized for the impact of fibreglass usage without precautionary measures.

5.3.2.6 Women Development Program

The Project aims to address women's issues and needs through:

1) Female breadwinner development

The number of families that were led entirely by females reached 183 in Al-Hallous and 139 in El-Bahtini. The Project held sessions and workshops for female breadwinners in the two areas to identify their problems which were caused mainly by three factors: divorce, illness, or the decease of the spouse. The project set a workplan to help these women support their families by providing loans for 71 families who had some skill in spinning nets.

2) National Identification Cards

The project is considered among the leading bodies that worked hard to prepare personal IDs for women in the slums since 1999, in association with the sustainable development program, and the Association of Development and Environment (ADE). This was achieved through the application of Base Line Survey Program with the UN-Habitat. The number of women who had personal ID cards in Al-Hallous represented only 10% of the total number of females. Women in these two areas did not have IDs because either they were unregistered in archives, or it was difficult for them to go to the national ID center in Ismailia. Besides, many females could not afford the cost of the application form: Some women were reluctant to go to the police station to get an ID, as in such areas it is unacceptable for women to go there. Moreover, the project found out that in some cases women did not even have a birth certificate.

To face such problems, the project provided 570 application forms and a van for taking

photographs, and in association with the national ID center, the officials were transferred to these areas to make all the procedures of getting IDs for women there; a female official was assigned to take photos for veiled women, and the village chieftain (sheikh) was to guarantee women whose husbands or brothers were not available. Old men and family members with special needs benefited from this service as well, where the total number of beneficiaries reached 570 after four campaigns.

Those who are legally registered as voters were gathered and transferred by bus to the police station to get electoral cards.

Seminars were organized to raise people's awareness as to the importance of having a national ID.

3) Women's Skills Development

Sessions were set to identify women's skills with the simple material available for them, so as to encourage them and help them promote their products without any charge. The sessions aimed also to teach them how to recycle old clothes to produce hand bags, thus enabling them to raise their income; an idea that was highly appreciated of by most women.

4) Women's Political Awareness (Electoral cards)

Many sessions were held to raise women's political awareness, where women showed their interest to select their representatives in the local and regional assemblies and councils. The project stressed the importance of obtaining electoral cards and helped women with process of extracting their own cards. With the help of a team of volunteers, the project transferred those interested to the electoral registration centers as part of a campaign for promoting electoral cards. This was done in association with ADE. The beneficiaries reached 30 women in Al-Hallous and 30 in Al-Bahtini.

Electoral Cards

- Sessions to raise awareness about the importance of voting took place. Local

residents asked that procedures to obtain voting cards be facilitated for them.

- The two areas were divided into several groups. Each group headed by a (leader) volunteer responsible for organizing the collection and transportation of those interested in registration.

Rotating Loan Program

This Program had a great acceptance of the inhabitants especially those who benefitted from it. The project designed so that it works on various axes:

1. Raising the standard of living of families of these areas who originally suffered low income levels.
2. Empowering women economically to assist in developing the target areas, especially women headed households.
3. Developing small industries which are a salient feature of the two areas where net weaving and boat making are among the most common income generating activities.
 - Lender: Social Solidarity Directorate
 - Benefiting Families: 38 Families
 - Total Loan Rotating Amount: L.E 149,080

In order to ensure connection of this Program with the other social programs within the public service system, significant conditions were required to avail of this loan, namely that the applicant should have an illiteracy eradication certificate, a national identity card and that the applicant's children do not drop out from schooling.

- The number of families benefiting from the rotating loans program reached 45 in El-Hallous with a total loan sum of EGP 94,580. As for residents in Al Bahtini who benefited from the loans, up to 136 families with a total sum of EGP 56,500.
- Loans were directed at net-weaving industry and boat manufacturing; two professions associated with the fishing profession practiced by a large number of residents in the two areas.

Box 5: Micro Loan Program

Loans are provided according to criteria set by both the Ismailia Association for Development and Environment and the Project. The key points of the criteria are as follows:

- Applicant should be literate
- If applicant is illiterate, s/he should subscribe to the illiteracy classes organized by the project
- Applicant should not have kids who dropped out from education; otherwise s/he should send them back to school or make them join the illiteracy classes.
- Applicant should have national ID
- Applicant should be working in fishing business.
- Two people to provide guarantee for the applicant should sign.
- Applicant should educate two unemployed people on the fishing work.

Applications are submitted to the NGO board and they approve the applications after reviewing the cases and matching the approval against the set criteria

The loan crediting process takes one week after receiving all necessary papers

The fund for this micro loan program is from the Ministry of Social Solidarity with an amount of EGP 20,000.

Number of beneficiaries to date: 39 families

Number of times the loan was revolved: 82 times.

5.3.2.7 Securing Land Tenure in El-Hallous and El-Bahtini

A WG meeting was conducted with IG officials and involvement of Community Leaders to discuss the future urban upgrading works as well as securing land tenure. The meeting resulted in agreement that IG officials will provide the project with a list of owners of lands. The officials would also coordinate the land tenure process with the project's upgrading officer so as not to impact negatively the current and future upgrading plans.

All stakeholders groups were participating in providing information for all phases of the project implementation, facilitating decision with the community, and organizing community contribution

5.4 Capacity Building

The Participatory Slums Upgrading Project organized several training workshop for local groups (both executive agencies and community) to enhance their capacity. Accordingly the project allocated 2,750m² in El-Hallous for the establishment of a sustainable development centre for training and capacity building.

5.4.1 Training Events

- A two weeks training in conflict management for 25 local trainees was prepared in collaboration with UN-Habitat.
- A three phase program to enhance the capacity of workers in the random housing development departments was prepared.
- GIS program's preparations in collaboration with the faculty of science-Suez Canal University were made.
- Three workshops were prepared for project implementing agencies and local communities on participatory planning for slums, strategic plans, new construction laws, and action planning.

The Project also organized a training course in First Aid at the Center for Training and Capacity Building. Fifteen activity teachers (from Al-Hallous and Al-Bahtini areas) participated in the course which was organized to make up for the shortage in medical services available in target areas. In this respect, handouts about First Aid were given out to participants. First Aid funds in the schools of the two areas were distributed to purchase necessary equipment.

5.5 Workgroup Approach for Participatory Upgrading

5.5.1 Workgroups Formulation and Functions

The Project formulated several committees and workgroups which were responsible for implementation of priority intervention projects. Each workgroup was responsible for a specific upgrading theme as follows:

5.5.1.1 Workgroup concerned with Urban Development at The Local Popular Council

The committee met with members of the local popular council, the executive authority, managers of infrastructure projects, and UNDP representatives to discuss informal housing and slums in Ismailia governorate and their social and economic impacts, property loss and random growth on agricultural lands.

5.5.1.2 Workgroup Concerned with Informal Housing

With an initiative from the project, the workgroup met with members of the local community council, the executive authority, and managers of development projects before proceeding to the informal areas to investigate the existing problems.

Other workgroups were formulated and divided into:

- local community leaders,
- project administration members,
- local government,

- members of implementation agencies that participated in the project.

The aim of these questionnaires was to evaluate and assess gains and obstacles in order to document the experience, and to extract best practices and lessons learned.

A workshop was held in Ismailia that included the participation of representatives of all groups. The purpose of the workshop was to discuss the issues raised in the questionnaire that face the project and persisting hinder forces, as well as how to protect results and to sustain gains after the end of the project.

5.5.1.3 The Project Champion

The sample of all group agreed on The National Project Co-ordinator, Ms. Habiba Eid that had been selected after an intensive and thorough selection process, to be the project champion. They interpret their opinion by the wide experience she had in upgrading slum areas, in addition to her familiarity with international funded projects standards and approaches. They also added that she was mobilizing funds and the institutional set up of the implementation and the capacity building of all participants of the project. In addition, she persisted to attack argue with all obstacles that threat the implementation of the project: such as financial or institutional obstacles.

5.5.2 Stakeholder Groups and Their Influences

The Project was keen to involve the beneficiaries, mainly slum dwellers, of the upgrading works in all its activities. In addition to the initial two inception meetings conducted in each area in the early stage of the project's

life, seven WG meetings were conducted to discuss the initiation and follow-up of the infrastructure works.

One of the seven WG meetings was concerning the urban upgrading of both areas where a detailed discussion about proposed upgrading plans and securing land tenure took place. All Work Group minutes were recorded by the Project in order to follow up on the points raised by the participants and beneficiaries.

5.5.3 Linkage with Other Operations and Sector Co-ordination between Donors

The project shared experience with a sister project conducted in Al-Minya titled "Solid Waste Management Project". Officials and representatives from Minya project visited Ismailia and met with their peers from the City Council, District and Nefihsa Village. They also met with community leaders and exchanged knowledge and experience with Ismailia officials and project staff.

5.5.4 Community Engagement & Consultation

5.5.4.1 Prioritizing Problems

The main priority problems were grouped according to the participants' opinions to the following five problems:

- 1- Limited NGOs capabilities
- 2- Low income and high unemployment (50%)
- 3- Lack of commitment to approved urban planning as well as lack of planning enforcement & encroachment on agriculture land.
- 4- Lack of basic services – problems in Hallous main road (safety)
- 5- Pollution of environment and natural resources

Box 6: Complaints and Responses

Several complaints were received from locals of both areas, the following table summarizes the complaints received and how the project responded to them:

- Ten complaints regarding house demolishing and cracking. Housing was provided to one woman whose house was demolished until an alternative was found.
- Three complaints regarding ownership and its high costs which led to the delay of providing utilities. Meetings with officials from Abu-Atwa project to facilitate acquisition and provision of utilities
- Three complaints related to land confiscation to allow roads' construction and expansion. A session to discuss property confiscation causes and alternatives took place.
- One complaint regarding power cables passing on top of houses' roofs. The power cable passing over houses' roofs issue was solved by providing electricity poles.
- One hundred complaints about houses being deprived from sanitary drainage and were not connected to the main network. The main network was deepened and larger pipelines connected to the main network were installed.
- An alley in Ard El-Far was not connected to the sanitary drainage network. The alley was scheduled in the new phase.

5.5.4.2 Weaknesses Hindering Community Engagement

PROBLEM (1):

Limited NGOs capabilities

- Islamic Ladies NGO in El Bahtini
- Community development NGO in El Bahtini
- Fishing NGO in El Shohadaa

- The Social Affairs office/directorate
- Abu-Atwa upgrading project
- Licensing department

PROBLEM (2):

Low income & high unemployment (50%)

- Social Affairs
- Social Fund for Development
- Rehabilitation Centre in Suez Canal University
- Housing Agency (centre of technical & handicraft training)
- Businessmen association (NGO)
- Projects and international organizations providing funds
- Investors' NGO in the Industrial Zone
- NGO for Developing the Fishery Industry
- International organizations & associations for fundraising
- Water Police
- Fishery Stock Association (Ministry of Agriculture)

PROBLEM (3):

Lack of commitment to approved urban planning as well as lack of planning enforcement and encroachment on agriculture land.

- Permission Department in District 1 (Hayy Awwal)
- Abu-Atwa upgrading project
- Urban Planning Department
- Department of Agriculture Land Protection
- Ismailia City Council
- Committee for Upgrading the Slum Areas
- Committee of local council

PROBLEM (4):

Lack of basic services – problems in Hallous main road (safety)

- Health insurance umbrella
- Social insurance
- Suburbs police stations and police of Hay Awwal (1) district
- Young Graduates NGO
- National borders guards (army department)
- Local residents
- Directorate of Education

PROBLEM (5):

Pollution of environment and natural resources

- Committee of Fishery Stock Development (Ministry of Agriculture)
- Committee for Environmental Improvement
- Nefisha Village
- Ministry of labours and water supplies
- Drinking water plant in Ismailia
- Local residents
- Fishery Stock Association

The above authorities and institutions were grouped under three main categories:

1- NGOs

- Fishermen NGO
- Local population

2- Executive Agencies

- Social affairs
- Abu-atwa upgrading project
- Fishery Stock Association
- National borders guards
- Health insurance
- Urban planning department
- Police offices in the suburbs
- Environmental management affairs department
- Nefisha Village

3- Elected Committees (PUBLIC)

- Fishery Stock Association
- Committee for local labors
- Committee for land subdivision and designations
- Committee of environment

5.5.4.3 Volunteer Programme

A group of the volunteers from in El-Hallous was selected to assist the project in identifying social problems in their neighborhood. 10 well educated youth (of which 7 were girls) were selected to help in organizing events to discuss urgent issues in their area such as:

- garbage littering
- rodents
- drugs among youth
- lack of security
- lack of land secure tenure, especially for the poor and women
- Lack of medical support for the poor
- Poor quality of education
- Absence of youth services
- Absence of fire brigade to serve the area

Box 7: Encouraging Local Community Participation

As part of the Project's interest to develop the community of Ismailia in general, the first show of the governorate's achievements was organized on 26.03.2008 where the Project took part. The project also presented models of social and implementation development works at El-Hallous and El-Bahtini.

VI. Outcomes and Lessons Learned

6.1 Participation and Ownership by Beneficiaries

The PSU project succeeded to instill among residents of both areas a sense of ownership of the upgrading process, which will last beyond the formal project period. It is an important factor of sustainability of the upgrading already achieved, and importantly increases the likelihood of further improvements led by the communities themselves in the future.

The Project was from the beginning, keen to involve the beneficiaries of the upgrading works, mainly slum dwellers, in all its activities, beginning with the initial household surveys. Regular meetings with the dwellers of both areas were conducted. The Project has opened two Implementation Units to be close to the community and report any problems or requests to the Project management.

WG meetings attended by representatives of the community and by the Project management and technical staff, were an important component of planning and operation of the upgrading process. These meetings have helped, among other things, to ensure coordination, community buy in and to eliminate several obstacles that might delay the execution of infrastructure networks.

Groups of project volunteers in both areas have played an important role in several project activities, in monitoring of the quality and timeliness of work of the service providers (contractors) and in awareness campaigns organized with parent councils, women and youth. Some members of these groups are planning to continue their activities as volunteers in the development of their communities in the future.

CBOs were also an important factor of participation and of continuity. While they were involved as main stakeholders in community planning and as members of WGs, CBOs could benefit from further capacity building in order to be able to better serve their communities and lead development initiatives in the future.

Each of the two target areas already has a de-facto Local Committee, which will coordinate the follow-up activities to the Project, holding regular meetings once a week in El Bahtini (some 20 – 30 persons every Friday after the prayers) and every two weeks in El-Hallous (a similar number). These Committees, together with CBOs, were already planning for further upgrading, such as extending the road surfacing improvement to the smaller streets which could not be, due to limited funds, fully included in the PSU project. Having already gained experience of working and coordinating with local agencies, the committees will be approaching pertinent authorities for required funding.

6.2 Policy Support

Since its preparatory phase the PSU project has collaborated with four consecutive Governors, with whom the National Project Coordinator (NPC) has had regular working meetings. At the same time the NPC also held meetings on regular basis with the Secretary General of the governorate and the Chief of the City Council to ensure the smooth implementation of the project's activities. This policy level support of the participatory upgrading process initiated by the project is very likely to continue beyond the formal project period.

6.2.1 Strengthening Local Civil Society

Strengthening of local NGOs, and of CBOs is an outcome of the Project with a likely long-lasting impact. At the same time, however, the training needs of the NGOs and of CBOs, were, even at the time of closing of the project, cited by several residents as being among the most

important training needs that require further attention.

Building on the success of the upgrading, the Sustainable Ismailia Training Centre and its umbrella NGO ADE, will be moving into El Hallous following the completion of the Project. The Centre will continue, without a time limit, two kinds of activities, which will add to the outcomes of the Project: (a) Vocational training for the population of El Hallous and El Bahtini, and of the other low income areas; and (b) Training for policy makers, managers and practitioners on participatory integrated slum upgrading methods. The Centre will also continue with the training in areas of local leadership and management, including conflict management, and local development.

6.2.2 Innovative Technologies

In the upgrading activities, satellite images, computer aided designs and maps were being used in addition to the use of Global Positioning Systems (GPS) in order to update existing maps. An innovative system of recording all spatial information about land tenure, combined with issuing of land tenure cards to owners of all registered plots, could be used as a model for procedures of the land registration offices in Ismailia and beyond.

6.2.3 Socio-Cultural Aspects

A number of cultural and social activities, especially for youth and women, was initiated by the project, including among others theatre and visual arts groups, choir, boy/girl scouts, gym and sport activities, computer café's etc. They were likely to continue based on two Youth Clubs (one in each area), expanded by the Project, on the local schools and the local NGOs.

6.2.4 Gender Equality

The project adopted a policy that ensured gender equality in benefiting from the project's

activities, and contributed to redressing gender imbalances by targeting women with specific sets of activities. The project's interventions were likely to have a lasting impact. This was demonstrated in the following:

- Out of the six community facilitators engaged by the Project (three in each area) four were women
- Literacy classes were initiated with special focus on illiterate women
- Special attention was given to women's conditions concerning health, education, economic opportunities and tenure.
- Campaign of issuance of the ID Cards and Voting Cards, focused primarily on women
- Vocational training followed by small loans' programme was successfully initiated
- Women were adequately represented in all workgroup meetings conducted during the Project.

6.2.5 Environment and Public Health

The main environmental outcome and long term impact of the PSU project is its contribution to the cleanliness of Lake Tamsah, and especially of the Western Lagoon. This is an outcome of national level importance.

At the local level the main outcome is very significant improvement of the cleanliness of the local environment. Construction of the sewerage system covering each of the localities and initiation of the regular municipal garbage collection completely changed hygiene levels in both localities, has greatly reduced the problems of rodents, and is likely to improve soon the general health levels of local residents.

While it is still too early to assess, the campaigns of health services, awareness campaigns on health, hygiene and environment protection, and the access of the population of both areas to the expanded Health Centre at Saba Banat, were likely to have a lasting impact on overall health levels in El Hallous and El Bahtini.

A similar impact is also likely to result from the First Aid Training Course for activity teachers in

the schools of both localities, followed by funding for the necessary equipment.

6.2.6 Education

Activities and outputs of the Project are likely to have several impacts in the area of education. Some of them, such as immediate reduction of the number of the school drop-outs during the period of the pertinent activities of the project, have been measured (in El Bahtini schools number of drop-outs went down from 68 to 27 per year.

Improvement of the general conditions of the school buildings, and especially of the sanitary conditions, resulting from the projects, is likely to have an impact of improved attendance and better achievements by the students. It has been reported, for example at the beginning of the Project, that the poor conditions of the sanitary facilities have been an important cause for some girls dropping out of schools – this should not be a cause anymore. Also the improvement of lighting and ventilation in the classrooms is likely to make a difference in attendance and performance.

The activities aimed at reduction of the number of drop-outs

Institutional and management capacity

The process of institutionalizing the participatory slum upgrading approach with Government authorities has been well advanced by the Project. The management capacity of that process within Governmental organizations needs however further strengthening. ADE will be involved in providing capacity building for government officials as well as for local consultants and other stakeholders.

6.2.7 Economic and Financial Outcomes

The main economic and financial outcomes of the Project were a result of the regularization and registration of land, a micro-loan programme, issuance of ID cards, improved accessibility due to better roads and public

transport, improved environmental conditions, and literacy training.

6.3 Lessons Learned

During the implantation of the Project, several experiences were accumulated. These experiences could be summarized in the following lessons.

6.3.1 Generic Lessons

6.3.1.1 Legal and Regulatory Framework of The Project

Legal and regulatory framework of future projects need to be clearly defined and agreed at the beginning. This Project did not have, since its beginning, a full control over a number of external interventions altering the conditions in area of its responsibility. This included, among others:

- a) Construction by the Housing Fund of the Governorate of five apartment buildings within the Project area in El Hallous (with no sewage connection),
- b) Awarding the contract for sewage provision in El Hallous to a large international construction firm, not controllable in terms of timing and quality of delivery neither by the Project Management nor by the City.
- c) Large number (72) of new plots sold in El-Bahtini by the Agricultural Reform Authority, with no coordination with the Project nor with the City Planning



Photo 27: Vacant Governorate Buildings in El-Hallous

The Project Management dealt with these matters in innovative and effective ways, but could not avoid resulting costs and delays.

6.3.1.2 Collaborating with and Strengthening The Established Organizations – Government and NGOs.

These were the organizations which had a sustainable funding base, instead of creating new, usually temporary, entities which end their operation on termination of the project. The examples are:

- a) CBOs delivering the Micro Loan Programme, literacy training, vocational training, support for issuance of national IDs and voting cards etc
- b) Upgrading and expanding, both in terms of physical conditions and in the services provided by government funded Youth Centers in both areas.
- c) Upgrading and expanding the government funded Health Center near both areas, and assuring that both areas will be covered by its services.

6.3.1.3 Coordinating The Provision and Upgrading of Various Physical Networks

This included water, sewage, roads, electricity supply and street lighting in order to minimize the combined cost and the inconvenience to the residents resulting from works in progress.

Logical sequencing of those works took more time than originally expected, but still represented a cost and time savings over the sectoral uncoordinated construction. This was facilitated by several factors:

- a) Control of key funding by the Project enabled Project Management to negotiate with all service network builders and to schedule their work in a compatible manner. This was fully possible in El-Bahtini, but only partly in El-Hallous (see below). It is an important general lesson, that control of budgets for local public works by local authorities or by other bodies with territorial responsibility, allows coordination and savings, which are much more difficult with

the sectoral approach (commonly still used in Egypt and in many other countries).

- b) Ability of Project Management to negotiate with the non-performing service network builders of a face-saving solution, allowing passing finishing of works from them (largest company in the country) to a local construction firm. The large firm agreed to release remainder of works, but has retained a “quality control”, and was paid for it. This was the case of sewage provision for El-Hallous, with two main lessons: importance of looking for a creative “win-win” solution, and importance for Management Team to possess negotiating skills.
- c) Ability of the Project Management to negotiate the scheduling of works with service providers, which has also created precedence for more flexible and collaborative work in the future.
- d) Intensive community involvement in planning and scheduling of work, including, among others, consultation meetings bringing together the builder of the network, community and Project Management.

Future Projects should have the necessary authority to coordinate the provision and upgrading of various physical networks (water, sewage, roads, electricity supply and street lighting) within their territory of responsibility (the Project(s) Area),

This coordinated manner of provision of infrastructure networks could also serve as a model for normal procedures (outside any project) used by the respective agencies. This would require however decentralization of the management of funding from national sectoral organizations to the provincial and local governments.

6.3.1.4 The Use of Local, Small and Medium Contractors

It is recommendable to give preference to local small and medium contractors over the national and international companies. In this project it resulted in:

- d) Easy and continuous communication between the builders, Project Management and community.
- e) Better conditions for local cost and quality control, and also for community involvement in works.
- f) Creating of local employment opportunities, of the expansion and additional experience of local companies, and on the job learning for their regular and temporary staff.
- g) Significant cost savings

6.3.1.5 Coordinated Upgrading of Both The Physical and Socio-economic Conditions.

The combination of the upgrading of both the physical and socio-economic conditions within one project led to series of mutually supportive improvements. This was the experience of the Project in both target areas. Here are some examples:

- a) Introduction of sewerage network with domestic connections, and of the solid waste collection, has had an immediate impact on reduction of rodents' problem. It is also very likely to have soon impact on the health conditions of the population and on the value of property.
- b) The reliable supply of electricity and of water combined with sewerage is opening the possibility for home-based economic activities and of other local enterprises to grow. Improved roads, in combination with mobile phones, expand the potential market for local goods and services to other parts of the city.
- c) Improved roads with public transport give El-Halous residents access to job opportunities in other parts of the city. They were also placing the expanded Health Centre, in Saba Banat, opposite El-Bahtini, within the reach of the population of El-Halous.

6.3.1.6 Community Involvement and Ownership.

Continuous involvement of the communities in the decisions within the Project and also in the negotiations with authorities described in the

chapter on Activities and Results of the Project, has built local capacities and created a culture of community collaboration which were likely to make the achievements of the project more sustainable and to make possible further local development initiatives.

- a) Already ongoing practice of weekly, every Friday after prayers, meeting in El-Bahtini, and every two weeks in El-Halous is likely to lead to the formalization of some kind of local coordination committees.
- b) Local CBOs, especially if they could be further supported by capacity building and national NGOs (ADE with SITC) are also likely to contribute to the sustainability of the upgrading achieved and to further the development of target areas.

6.3.1.7 Cooperating with An Organization to Implement Some Components in The Project:

The choice of an established locally based capacity-building organization (Sustainable Ismailia Training Centre - SITC) to lead the design and implementation the Project had several highly positive effects.

- a) It facilitated continuous communication, and created an atmosphere of mutual trust and partnership between the communities and the implementing organization
- b) It has made possible, using the past training and facilitation experience of the SITC, a strong capacity-building component within the Project. This component is likely to have (it is too early to say "it will" at the time of completion of this report) a long lasting impact and to contribute to sustainability of the project results, especially of the collaboration of the residents towards future improvements of the living conditions in each of the localities.
- c) Experience of having implemented this Project has enriched the SITC own know-how, while the SITC training background should help it to be an effective agent of transmission of this experiences to others in Egypt and beyond.

- d) The fact that SITC is moving its base – training rooms and offices – to a location in one of the Slum Upgrading Project areas (El-Hallous) is likely to facilitate any post-project follow-up and support to the benefit of the both communities and of the further learning-from-practice by the SITC. ADE, an NGO of which SITC is a part, will also move to El-Hallous.

In sum, it would be advisable in future similar projects, to look if possible for established, locally based, capacity-building organizations to assume the leadership of the projects.

6.3.2 Thematic Lessons

6.3.2.1 Land Tenure and Land Management

- a) It might be useful to consider the introduction of uniform nation-wide procedures and of a coordinated system for land registration for all lands, including the ones under the Agricultural Reform Authority (ARA). This is a necessary step to ensure orderly urban development, and for preventing the formation of new slums. In this way, no land can be sold without being a part of a planned area/subdivision, with provisions enabling introduction of adequate services and infrastructure. The sale by ARA of 72 plots in Bahtini during the period of the Project, without any approved plans or services is an example of situation which needs to be avoided.
- b) The easy availability of complete and up-to-date information on land and buildings' exact location, size, ownership and use greatly simplifies urban planning processes. It is also useful for taxation purposes. Unavailability of information about ownership status of several vacant plots has made impossible the implementation of some Project and community initiatives on location of public services and green areas. Ismailia City has in fact made important progress on this during the project period and its experience in this regard can be used as a model for other localities.
- c) The Project has developed, and fully implemented in both areas, a GIS - based innovative system of property registration

including the individual Tenure Registration Cards. The system has been made available to Ismailia City, and could be a model/lesson for other localities. An example of such a Tenure Registration Card is included below in this report.

- d) It is advisable, in order to shorten and facilitate the physical survey stage of future projects, for Government to announce at the beginning of the project that all property owners, in order to be included among the beneficiaries, need to register their properties with the project office, or bring to the office evidence of a previous official registration.

6.3.3 Provision of Infrastructure Services

6.3.3.1 General

- a) Involvement of communities and of outside volunteers in monitoring the compliance by the infrastructure providing contractors (in each community 3 volunteers – 2 local and one external were continuously involved in this monitoring) has proven to be very helpful and a useful model for future projects.
- b) Necessary widening of the streets in order to accommodate the services, including solid waste collection, should be planned for in early stages with full community participation. See 4d and 4e below for further details.

6.3.3.2 Sewerage

- a) The need for an early identification of obstacles against widening the roads necessary for laying down sewerage pipes (and for domestic garbage collection), and a participatory identification of solutions, is one of the specific lessons
- b) It might be advisable in future projects to use man-hole covers made of material other than cast iron (several of newly placed cast-iron covers have been already stolen due to the value of the metal). This results in security and health hazard. Alternative covers, of cement mixed with selected waste material, exist on the market, although they

would need the approval of pertinent authorities.



Photo 28: Construction of El-Hallous Pump Station



Photo 29: El-Bahtini Sewage Line

6.3.3.3 Water

- a) Beneficiaries in parts of the areas, which did have earlier a deficient, but still functioning, domestic water supply, felt inconvenienced by the interruption of this supply during the construction of the permanent network. It might be advisable in future projects, to plan for a temporary supply system for that period. The options and costs to the residents could be discussed early in the project during community meetings. They could include for example, retaining as long as possible the operation of the old system, or installing a temporary system of over ground pipes.
- b) The cost of domestic connections: Beneficiaries were complaining about high payments required for domestic water connections. Some households delayed their

connection for lack of affordability. Installing of some individual connections at the later date will be more costly for the company and for the users, and will require destruction and replacement, at the place of the connection, of the road which will already have been finished. Two specific lessons could be drawn: (1) it would be advisable to inform all families, at the beginning of the upgrading process, about the approximate level of this cost, and (2) the payment could be made by installments, as an addition to several water bills.

6.3.3.4 Electricity

- a) Cost of domestic connections: Similarly as in the case of the water network, several households have complained about what they consider to be a high cost of domestic connections. As in the case of water connection the lessons here seem to be also:
 - i. it would be advisable to inform all families, at the beginning of the upgrading process, about the approximate level of this cost, and
 - ii. the payment could be made by installments, as an addition to several water bills.

6.3.3.5 Street Lighting

The location of individual street lights: It would be advisable in future projects to involve the entity installing the street lights in the participatory character of the project and to decide the location of the lighting points in a consultative manner. This could be connected to assigning care for specific lighting points to specific families or groups of families, likely to lead to smoother process of operation and maintenance. The obligation of the family would be basically to notify the appropriate authority as soon as there is any problem with “their” light. In the present Project, some households raised complaints that this was the only element of the project, which has not been participatory, and, according to their judgment, resulted in less than optimal distribution of street lighting points.

6.3.3.6 Road Network

The issue of some local streets, especially in El Hallous, being not wide enough to lay down sewerage pipes, for passing of the garbage collection truck, and for placing of a large garbage box, has resulted in the residents' proposal of a solution for future projects, which is a useful lesson to remember. The residents have proposed an early identification of obstacle buildings, making widening the streets not possible, and including in the budget compensation payments and other solutions for households that would lose part of their property or will need to be relocated. This procedure was in fact successfully used 30 years ago (1976/7) in Ismailia at the time of upgrading of El Hekr, now called Hai El Salaam. It consisted of: initial community meetings introducing the issue and possible steps to solve it, a collective walk through each street in question together with its residents, negotiations, and provision of alternative sites or of other compensations.

6.3.4 Provision of Social Services

6.3.4.1 Education

- i. The overall collaborative approach to the improvement of education in the two areas is in itself a good practice model and a lesson to follow. The Project has involved the Ismailia Education Directorate, School Buildings Authority, directors, teachers, parents' councils and the students from the diagnostic stage to the implementation of improvements.
- ii. Understanding of linkages between (1) improvements of physical conditions of the schools, (2) increasing the attractiveness of the contents programme and in particular of the extracurricular activities, and (3) the removal of economic obstacles which some children face regarding their school attendance – and following it by coordinated actions in all these areas is also an example of good practice and lesson to follow.
 1. Improvement of ventilation, lighting, paint, drain pipes and some furniture and equipment, clean up campaign and provision of wastebaskets created an environment for better learning.
 2. Supporting parents and teachers councils, and selecting five students in each school to be “friends of the Project” to lead the maintenance of these and other improvements helps to assure their sustainability.
 3. A variety of art, cultural and sport activities link students closer with school and prevent their being involved in antisocial behaviors.
 4. Economic supports, see issue of dropouts under “iv” below, reduce number of dropouts>
- iii. Reduction of the number of school dropouts achieved by the Project (see section on Outcomes) draws attention to the actions taken, as possible source of lessons applicable also elsewhere:
 - a. Overall improvement of the conditions of the school buildings, and especially of the sanitary conditions, is likely to be behind improved attendance. Poor sanitary facilities were indicated during the surveys early in the project as one of the reasons why some girls have stopped attending school.
 - b. Tuition subsidies for students from the poorest families, administered by the Project jointly with the councils of parents and teachers.
 - c. Including the costs of children education among criteria for awarding the loans of small business support to parents, and placing “no school dropouts” condition in the loan agreements.
- iv. Illiteracy eradication area presents a very good lesson (good practice) of the role of the project in this kind of the programme, of acting as initiator and facilitator of collaborative activities between the entities, which will be able to continue them beyond the project period. In this case it was the collaboration of the CBOs in both localities and of the Youth Centres with the Public Authority for Illiteracy Eradication (PAIE). Other, more specific, lessons related to the Illiteracy Eradication included:
 1. Allowing women to bring infants to classes has removed an important barrier, which would have prevented many from participation.
 2. Providing free books and stationary has removed a potential cost barrier. Built-in subsidy element of such procedures requires, however, previous arrangements to ensure that the implementing organization will have the needed funds, or in-kind contributions.

3. Conducting official certificate tests within the localities (El Hallous Youth Centre), rather than at the PAIE Headquarters, was an important facilitating arrangement.

4. Linking the beginning of loan-provision procedures to obtaining IE certificate was a useful additional motivating factor.

5. Coordinating timing of medical services to be just before or just after classes, has allowed for time saving, and possibly increased a number of learners.

6. Applicability to the future situations of another inducement, in form of provision of free bags of food and other commodities is a factor of availability of extra funds or of in-kind contributions.

6.3.4.2 Health

Similarly as in the area of education, the main lessons are:

(1) the need for a collaborative multi-partner approach and

(2) benefits of the simultaneous intervention at various levels:

(a) improving local environment (drinking water, sewerage, solid waste removal),

(b) systematic public awareness campaigns and

(c) improved access to the health services.

Supporting the modernization and expansion of the existing Health Centre in Saba Banat, outside both areas, was a creative solution to improve this access, maximizing the impact within the funding which could be mobilized

a) Training sessions for activity teachers of schools in both areas, on how to handle health emergencies and the first aid, bringing together Health Insurance Administration and Educational Administration are another

b) Initiative that can usefully be followed also in other areas. The fact that the training providers were established administrations, and the Project was mainly an organizer and facilitator, increases the likelihood that such training could be repeated in the future, when required.

c) Involvement of the Faculty of Medicine of the Suez Canal University in two Health Campaigns in El Hallous and El Bahtini, is

also a model of how to expand the impact, and to increase the likelihood of the follow-up by establishing collaborative links, and to initiate the service relationship.

6.3.5 Improving Local Physical Environment.

The Project has a strong evidence how the introduction of the sewerage system and of solid waste collection has improved the local environment.

The earlier campaigns of cleaning of the locality and of combating rodents have been only successful in the short term in the absence of the sewerage and of systematic garbage collection.

Awareness-raising campaigns in the community in general and in the schools have been also an important factor. More of such campaigning will be needed to encourage all families to use properly the new services, especially the solid waste collection system.



Photo 30: Tree Plantation in Schools

6.3.6 Improving Local Economy and Reducing Poverty

Small loans for initiating or expanding family based businesses, and vocational training, especially focused on women, followed by such loans, have been a successful instrument used by the Project, and possible model /lesson for future projects. Sustainability of this mechanism beyond the project period is being assured by the fact that the loan provider was the Ministry of Social Solidarity and the loans and the corresponding revolving fund were being managed by ADE, and do not depend any more on the Project. The fact that revolving fund had a 100% recovery rate is also an important lesson for similar future projects.

6.3.7 Improvement of Position of Women.

This is a crosscutting category already covered under subject areas described earlier. The main lessons here were:

- a) It is very useful, as the Project has done, to combine several mutually supporting types of interventions, such as health programmes, literacy training, vocational training, small loans, ID and voting card provision, support for strengthening local women organizations. This is likely to make the results more sustainable.
- b) Basing several programmes in the hands of local NGOs (programme of assistance regarding the issuance of IDs and of voting cards, managed by the ADE, is one of the examples) and ensuring, where possible, their funding from sources which will continue beyond the Project, were likely to be the main factors contributing to their continuity.



Photo 31: Handing ID's to Women in El-Hallous

6.3.8 Youth Needs

This is another crosscutting category covered earlier, mainly under education. The main lessons were similar as in the case women-oriented activities:

- a) Positive synergies resulting from combining of several programmes, as for example in a case of working towards reduction of a number of dropouts, and explained under item 3.a.iii above, in this section.
- b) Basing the programmes the hands of local NGOs and ensuring, where possible, their funding from sources which will continue beyond the Project, were likely to be the main factors contributing to their continuity.



Photo 32: Women Empowerment

ANNEXES

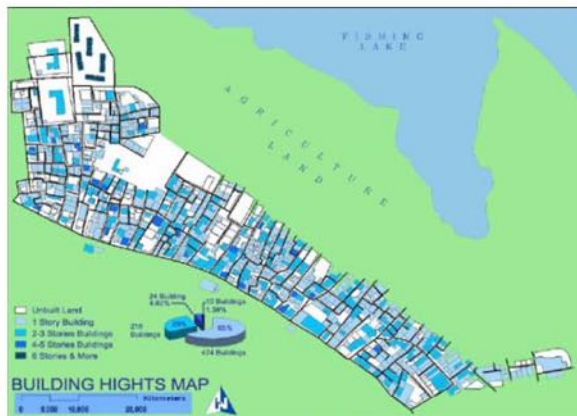
Annex 1: El Hallous Urban Survey

1.1 Building Heights

The buildings heights were grouped into categories. This classification resulted in the following map. The percentages of this category distribution were as follow:

Number of Buildings in Each Category

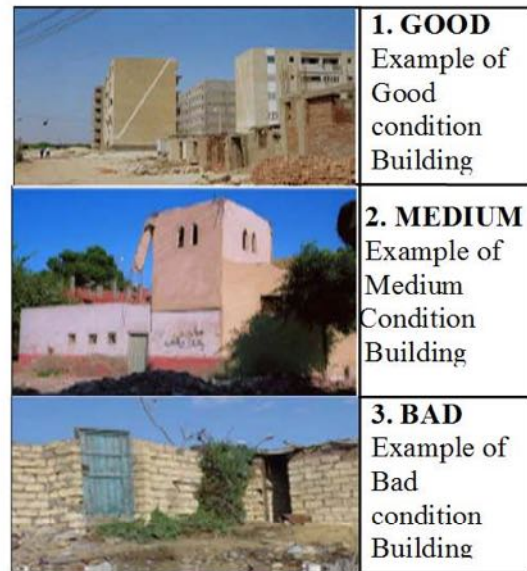
Heights Category	No of Buildings	% from total No.
1 story	474	65 %
2-3 story	218	29 %
4- 5 story	24	4.62 %
5<	10	1.38 %



Building Heights Map

1.2 Building Conditions

The buildings conditions were grouped into the following categories: Good, Medium and Bad. This classification resulted to the map in the following table. The percentages of this category distribution were as follow:



Examples of Building Conditions



Building Condition Map

1.3 Building Structure

The Structure was grouped into the following categories: Structural, brick wall, mud bricks. The percentages of this category distribution were as follow:

The Number of Buildings in Each Category

Structure Category	No of Buildings	% from total No.
Structure – Concrete	281	38.81 %
Brick Wall – Masonry	274	37.85 %
Mud & Clay Bricks	169	23.34 %

This classification explained the structure of the built form and helped identifying possible intervention in any planning / upgrading process.

This layout of such information provided to the decision maker a picture to support his understanding of the value of the existing real-estate in El-Hallous town.



Building Structure Map

1.4 Land Use

The land use pattern of El-Hallous was not so sophisticated; it mainly consisted of residential areas. All the uses could be classified as follow:

• Residential

Which were the basic residential areas where no other uses exist.

• Residential / commercial

This mainly included the residential stories except for the ground floor where there were local shops and groceries that provided goods to the locals in the area.

• Residential / Vocational

Which were residential blocks with handicrafts and handmade local industries such as the fishing nets

• Vocational

This included buildings that were totally used exclusively for local products with no residential stories such as the warehouse for building local small fishing boats

• Commercial

Such as local groceries, shops, and basic daily goods.

• Vacant lands

• Services

Such as schools, mosques, NGO, Nursery and Youth centre.



Land Use Map

1.5 Services

The basic urban services in the settlement consisted of the following:

- Mostafa kamel primary school
- Mostafa kamel secondary school
- Youth centre
- El-Hallous NGO for community development
- 2 Mosques
- Mobile Health Unit
- Public transportation

a) Schools

1- Primary school had 340 students (Mix)

2- Preparatory school had 125 students (Mix)

The education in the high school levels was covered through the following schools:

1- in Abu-Atwa

- Secondary (general) boys
- Secondary (general) girls
- Secondary (technical-industrial) girls – dresses, HVAC, tricot & mechanical sewing
- Islamic diploma

2- in the city of Ismailia

- Secondary (general) boys

- Secondary (technical-commercial) boys
- Small number (10-15) of the students came to El-Hallous schools from Ezbet El Zahraa (Ali Eid) for the preparatory school.



Azhari School (40 Student per Class)



Secondary School (35 Student per Class)

However, it had been recognized from the locals meetings, focus group discussions, and needs assessment that there was a qualitative problem in terms of the quality of the teaching process and its surrounding environment, and therefore, and due to economical reasons as well, the education as a process needs a lot of enhancements.

b) Health Services

The mobile health unit came every Monday and it did not cover the demand for the health service. there was a lot of requests to build a health unit in El-Hallous to cover the minimum basic services for the local residents , however, the geographical distribution for the health units did not allow for one in El-Hallous because the

nearest health unit was in Abu-Atwa which was less than 5 km from El- Hallous. Although it was within a walking distance but people did not use it for the following two reasons:

a) It was not safe for the women to walk this distance because of the high rate of crimes by drug dealers

b) The high cost of transportation (usually taxis that people could not afford easily)

People use the following health services instead although it was not as convenient for all:

- Mobile health unit (only on Monday)
- First medical centre in Sabaa Banat
- Health unit in Abu atwa
- Homeyyat hospital in Ismailia
- Sadr hospital in Ismailia
- Alamiri hospital in Ismailia
- University hospital in Ismailia

The following were the standards for the urban planning health services:

Standards for The Urban Planning Health Services

1 health unit	5000 people
health complex	15000 people

According to the above table, El-Hallous had a lack of the health unit (since the mobile unit was not available daily) and also suffered a problem in the spatial distribution of the health services in near-by villages.

c) Youth Centre

The youth centre was established in the middle of 70's and it was smaller than its size now. As the population growth there was a demand for increasing the area to accommodate the youth demands.

In middle of 80's it was developed and renovated to become on the shape and form that it had now. The picture and layout in the previous picture show, to the left, the existing layout of the centre with its surrounding, and to the right, was a picture showing the main entrance with the social building within the centre.



Youth Center Map

d) Mosques

El-Hallous had one major publically administered (awqaf) mosque and, where the main Friday prayer usually takes place, in addition to that, there were local initiatives for building small mosques (zawya) and El-Hallous had four or five types of these small praying corners.



Mosque in El-Hallous



Small Mosque (zawya)

e) Other Local Service (Private Initiatives)

There were some other services that were considered private initiatives from the local residents such as:

- Telephone and communication centre
- Bakery (producing local bread)

These were considered commercial (marked in the land use map as commercial use) but these activities provide local services for the residents.

The picture in the following picture shows the bakery of El-Hallous, to the left, and the communication / telephone shop to the right, both located in El-Hallous main road.



Local Businesses

Annex 2: El Bahtini Urban Survey

2.1 Land Use

The field survey indicates that the residential use was the major use in all El-Bahtini. It was also noted that services of all types captures only 2.75 acres of total uses. This use includes 1 primary school, 2 preparatory schools, 1 youth centre and Moslem Female Youth Society.

The analysis shows that road forms a problem to the inhabitants due to the inconsistency in local distribution of services. Vacant Lands within the urban block form ca 37.71% of total used area, while agricultural pockets form ca 3.63% of the uses and roads ca 82.84% of total used area.

Table Shows Land Areas and Their Various Uses Updated by Survey Performed in 2005

Land Use	Area (Acres)	Usage to Total Area %
Residential Housing	11.914	59.00
Residential\Commercial	4.220	21.21
Residential\Workshops	0.074	0.36
Total Residential Usage Area	16.877	83.79
Commercial	0.794	3.94
Educational: - Govern. Primary: 1 School - Govern. Prep.: 2 Schools	0.787 1.451	3.91 7.21
Total Educational Usage Area	2.238	11.12
Health: - Health Unit - Private Clinic - Veterinary Unit - Veterinary Clinic	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
Total Health Usage Area	0.00	0.00
Religious: Mosques	0.285	1.42
Entertainment: Youth Center	0.154	0.77
Social: Social Unit\ Develop. Society	0.046	0.23
Administrative: - Local Unit - Post Office - Central - Railway Station Services - Agricultural Society and Bank	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
Total Administrative Usage Area	0.00	0.00
Utilities: Water Plant, Elec. Generator & Sewage	0.017	0.08
Industrial: - Brick Plant - Maintenance Shop - storages	0.00 0.00 0.175	0.00 0.00 0.87
Total Industrial Usage Area	0.175	0.87
Hangars	0.202	1.00
Water Conduits	0.00	0.00
Total Usages	20.119	100.00
Vacant lands	7.595	37.71
Agricultural Pockets	0.731	3.63
Roads	16.667	82.84

2.2 Building Conditions

- Figure shows conditions of the various types of buildings according to 2005 survey, while Table (shows the areas and building condition percentages within the various study scopes. Building conditions were divided into 3 categories: poor, reasonable (moderate) and good, depending on the following criteria:
- Construction state and efficiency of the building
- Finishing and outer shape of the building
- A building's conditions was considered poor if its construction state was deteriorated, the building materials were of a temporal nature such as mud and unfired brick and the type of construction was one of weight bearing walls.
- The external shape of such buildings was also deteriorated in the form of deep cracks, leakage resulting from underground water or internal sanitary fixtures.

Areas and Building Condition Percentages in El-Bahtini

Building Condition	Within the Urban Block	
	Acres	%
Poor	3.456	17.26
Reasonable (moderate)	10.858	53.91
Good	5.805	28.83
Total	20.119	100.00

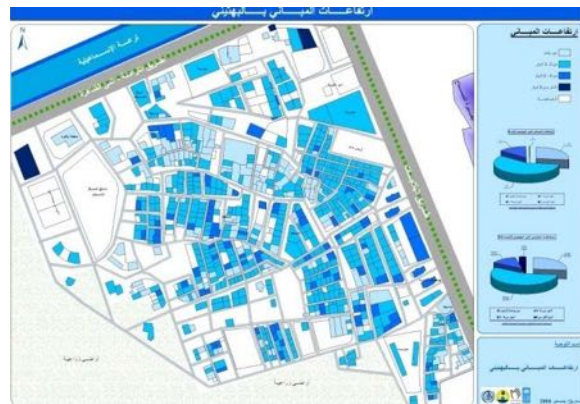
- most of the buildings in El-Bahtini fall under the reasonable (moderate) state category, while poor state buildings form only 17.5% and were mainly concentrated in inside near Berket Elsayadeen (fishermen's lake).
- Good state buildings were mainly concentrated in Elter'a (Canal) Street and Elbelajat (Beaches) Road.



Building Condition Map

2.3 Building Heights

Building heights according to 2005 survey, while Table shows areas and Building height percentages divided into 3 categories – ground floor, 2-floor and 3-to-more-floors.



Building Heights Map

Areas and Building Height Percentages in El-Bahtini

Building Height	Within the Urban Block	
	Acres	%
Ground Floor	5.377	26.80
Two-To-Three	11.516	57.18
Three-To-Five	2.530	12.56
Five-To-More	0.696	3.46
Total	20.119	100.00

Buildings currently existing in El-Bahtini area were formed of 2 to 3 floors and were concentrated in the middle. The one-floor buildings were concentrated in the South and East, The buildings with 3 to 5 floors were concentrated in the Northern and Eastern borders of the site

2.4 Building Structure

Map of Construction Materials and Systems and Table show that the dominating building system in El-Bahtini was the weight bearing wall one. It was noted that buildings made of clay structure were concentrated inside near Berket Elsayadeen (Fishermen's lake). Structural buildings form only 34% and lie on the Elteraa (Canal) Street and Elbelajat (Beaches street).



Building Materials and Construction Systems

Areas and Building Materials and Construction System Percentages in El-Bahtini

Building Materials & Structure	Within the Urban Block	
	Acres	%
Clay structure	2.193	10.89
Weight Bearing Wall	11.044	54.83
Skeleton Concrete Structure	6.882	34.28
Total	20.119	100.00

2.5 Building Patterns

Study of building styles derives more significance from definition of urban growth and development. Consequently, it helps estimating the future population densities and absorption capacities of dwelling area, and proposition of

proper interference techniques for a specific case like El-Bahtini area. Urban patterns in El-Bahtini were classified according to the following patterns:

- Level of Urbanization and Life Style
- Shape of urban pattern
- Movement System

Based on a social study, urbanization level was identified. El-Bahtini's population was according classification into 2 levels:



Roads in El-Bahtini

- **Semi Rural:** This Pattern was connected to spontaneity, collective social relations and inherited traditions. Extended family living in a rural house was still the dominant pattern of the social constitution. Agriculture activity or that based on fishing was dominant among this category's population. This level of urbanization was characterized by low cultural, social and economic standards in general. It was mainly concentrated in the old area within Dayer Elnaheya.
- **Semi Urban:** Here fishing and agriculture were secondary activities among this category's population. This pattern was characterized by disassembled traditional social structure, and appearance of nuclear families who live in independent house units, but mostly in the same house that had a rural style on top of the ground floor or in close to it. Consequently, rural habits

and traditions were rooted in the living style of this category's population, which was also characterized by more readiness to move from traditional coherent rural pattern with all its rural properties, to urban social patterns.

- Regarding the form of urban pattern and movement system, the study shows the various pattern patterns and characteristics of El-Bahtini, which were divided as follows;

2.5.1 Compact Pattern:

It was the core forming the traditional urban block of El-Bahtini. It was characterized by its cohesion in which houses and buildings were nearly fused together and a primary pattern for movement made up of Dayer Elnaheya

This indicates that public areas of roads and empty spaces were minimal. With 1 to 1.25 and an average height of 1 to 2 floors, building density was the highest compared to other building densities available in El-Bahtini.

2.5.2 Congregative Pattern:

It was an accumulated pattern nearly similar to the compact pattern but with movement system taking a form of congregativeness in which motion was Congregative from within the pattern to the outside, with less dead-ends. This pattern was mostly existent in the urban areas scattered around the old core of El-Bahtini and now fused with Dayer Elnaheya Area through the extensions implemented in the past few years. Similar in some respects to the Compact pattern, building occupation to lands within this pattern ranges between 21 and 24%, while building density as was the case with Compact pattern ranges between 1 and 1.25 but with an average building height of 2 to 3.6 floors.

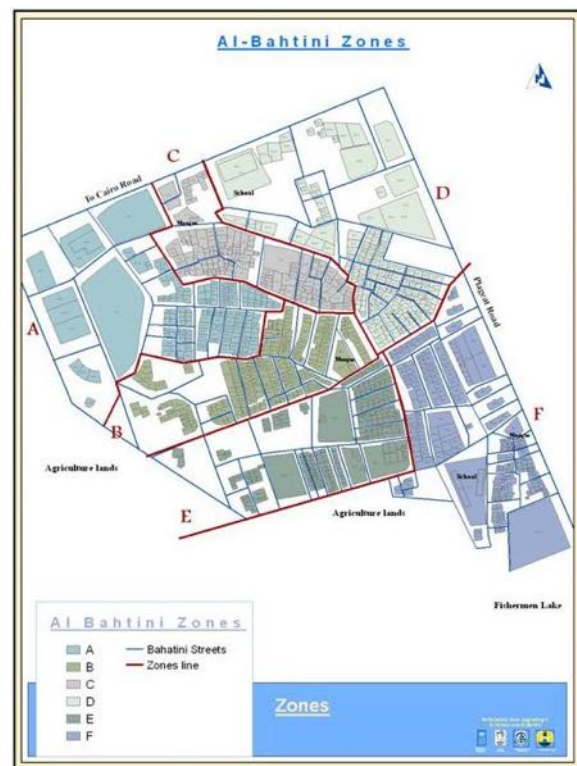
2.5.3 Interfering Linear Pattern:

It forms a pattern that issued out of the agricultural tenure resulting from division of land beds around irrigation canals. Movement system was linear coinciding with the water canal tracks. There was no clear escalation in

that linear network. Roads were characterized by long track movement and lack of crossroads. This pattern exists in an intermittent form at the urban extensions off the settlement. With a range of 2.2 to 3.7 floors, average number of the floors was as high as the average floor height of the congregative accumulated pattern.

2.5.4 Rarified Linear Pattern:

It was a primary phase of the Interfering linear pattern where many empty spaces and un-built lands exist. Therefore, this pattern forms an incomplete growth of a linear pattern. It appears in the modern urban extensions at the suburbs westward of El-Bahtini. With rates of 0.3 to 2.3%, 1 to 1.6 and 1 to 1.5, it had the least average of occupation, building densities and number of floors respectively.



Al-Bahtint Urban Pattern Zones



Al-Bahtint Urban Pattern Example



Al-Bahtint Urban Pattern Example

Areas and Percentages of Urban Pattern Forms in El-Bahtini

	Form of Texture	Area (Acres)	%
The urban pattern	Compact	3.54	25.89
	Congregative	4.62	33.79
	Interfering linear	4.03	29.48
	Rarified linear	1.48	10.82
Total		13.67	100.00

2.6 Population Densities

To identify the population densities in the various areas of El-Bahtini, the area was divided into homogeneous areas in terms of:

- 1-Urban Development of the urban Block
- 2-Characteristics of the urban Structure (Building Conditions, Heights and Building Materials and Construction Systems)
- 3-Urban Patterns (Urbanization Level, pattern Form and Movement System)

To estimate the current population of El-Bahtini and the population densities of each area, the detailed survey in 2005 was used. All homogeneous areas were examined and population densities were estimated.

Distribution of Net Population Densities in El-Bahtini

	Area Number	Area (Acre)	2005 Population	Current Density (person / Acre)
Existing urban areas	1	14.40	4200	290
	2	0.86	260	300
	3	0.90	190	205
	4	0.80	130	155
Total		22.16	5775	260

2.7 Ownership Status

There were two types of Ownership:

- **Abu Atwa Properties (Government Project):** This type of possession forms ca 12.3% of the total population block of El-Bahtini. They had ownership contracts in Abu Atwa Project. It was concentrated on the East border of the settlement near Elbelajat (Beaches) Road and alongside the Ismailia Canal Road a little to the inside.
- **Freeholds (Private):** This type of possession forms ca 87.7% of the total urban block. Most of it was concentrated inside to the Northern section of the settlement, but some was scattered in various parts of the settlement.

Annex 3: Information Gathered

In order to document this experience it was important to record type of information gathered to implement project. Through investigation it was revealed that the following data were collected:

Data Related to Plots of Lands, Building and Housing Units:

- Area of the Building
- Type of House
- Number of Floors
- Type of Construction
- Number of Housing Units
- Number of Rooms in the housing unit
- Number of families in Each Building\Housing Unit
- Number of persons in Each Building\Housing Unit

Data Related to Families

- Type of Family
- Average Family Size
- Householder's Education Level
- Householder's Economic Activity
- Type of Living

Based on the above collected data the following areas, averages and percentages were concluded:

- House Areas
- Average Number of Floors
- Living Area
- Occupation and Built-up Density Percentages
- Average Area of Plot\ House\ Housing Unit
- Average Area of Housing Units in A Building\ Plot
- Average Number of Rooms in A Housing Unit
- Density Rate
- Per Capita Share of Living Area
- Number of Extended and Non Extended Families and their Percentages
- Percentage of Extended Families to Total Families

- Percentage of Illiteracy and Education
- Percentage of Workers in Fishing Activities

Table shows Land Areas and Their Various Uses. as Updated by Survey Performed in 2005

Land Use	Area (Acres)	Usage to Total Area %
Residential Housing	11.914	59.00
Residential\Commercial	4.220	21.21
Residential\Workshops	0.074	0.36
Total Residential Usage Area	16.877	83.79
Commercial	0.794	3.94
Educational: - Govern. Primary: 1 School - Govern. Prep.: 2 Schools	0.787 1.451	3.91 7.21
Total Educational Usage Area	2.238	11.12
Health: - Health Unit - Private Clinic - Veterinary Unit - Veterinary Clinic	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
Total Health Usage Area	0.00	0.00
Religious: Mosques	0.285	1.42
Entertainment: Youth Center	0.154	0.77
Social: Social Unit\ Develop. Society	0.046	0.23
Administrative: - Local Unit - Post Office - Central - Railway Station Services - Agricultural Society and Bank	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
Total Administrative Usage Area	0.00	0.00
Utilities: Water Plant, Elec. Generator & Sewage	0.017	0.08
Industrial: - Brick Plant - Maintenance Shop - storages	0.00 0.00 0.175	0.00 0.00 0.87
Total Industrial Usage Area	0.175	0.87
Hangars	0.202	1.00
Water Conduits	0.00	0.00
Total Usages	20.119	100.00
Vacant lands	7.595	37.71
Agricultural Pockets	0.731	3.63
Roads	16.667	82.84

Annex 4: Implementation of Infrastructure

4.1 Sewerage Project for Al-Hallous

Hallous area is located to the south of the city of Ismailia, overlooking Lake Tamsah from its south. It is an affiliate to the Nefeesha village, Ismailia Municipality. The area also lies between Ali Eid and Hussein Adam areas which are linked through a main key road.

Most houses were built of mud bricks with no sanitation. There was, however, an unplanned sewerage network of underground water. The residents used filtering tanks to remove sewerage.

As there were no pumping trucks to empty tanks, and because of the difficulty of getting an access for trucks to get into some areas, the residents had to use old, worn pipes for setting up their own sewerage network that is not compatible with proper sanitation conditions. Sewerage went to a nearby canals that were used for irrigating vegetables and fruits which in turn led to environment pollution.

According to residents' complaints to the Sewerage Administration that they had no sanitation in Al-Hallous, the area was included together with Ali Eid and Hussein Adam areas in the plan of the National Authority of Drinking Water & Sanitation (among the list of deprived areas).

The Housing Fund of the Governorate built 5 residential buildings at the relatively high area in Al-Hallous where some residents from outside the area were housed. Such buildings had no sewerage except for a reservoir that can take sewage for only 48 hours. Unless taken away, water from this reservoir leaks into the lower areas where there are two primary and preparatory schools. Such schools suffer from the sewage until lifted.

4.1.1 Assignment

- On 27.8.2002, a letter from General Fouad Saad Eddin – the then Governor of Ismailia was

sent to the Minister of Housing concerning the assigning of sewage works in Ismailia city to the Arab Contractors according to the decree # 36 of 1994 issued earlier. That decree stated that Al-Hallous area was included in such works among other areas in Ismailia city and its Municipality (not including Al-Bahtini area).

- On 12.1.2003 a report was prepared by the chairman of Sinai Reconstruction Organization to be sent to the Central Organization for Reconstruction regarding H.E. Governor of Ismailia's request that Sinai Reconstruction Organization supervise the building of Al-Hallous and Al-Bahtini Sewerage Project. The letter stated that the National Authority for Water and Sewerage did prepare the execution drawings of both al-Hallous and Al-Bahtini areas for a total cost of EGP 18 million which was not true as the number represented the total budget of the project.

- Studies related to utilities were carried out by the Sustainable Development Project and funded by the Cities Alliance Project in coordination with Ismailia city council through a public tender. All studies, quoted measures, terms, and conditions were later sent to the Reconstruction Organization under the assumption that Al-Hallous Development would be funded by the new project called The Participatory Slums Upgrading Project. The Reconstruction Organization actually started building the Sewerage Station at Al-Hallous. As for Al-Bahtini, legal measures were taken by the Project.

- On 4.2.2003 the chief officer of the central administration for technical affairs of the Ministry of Housing and Utilities (The Central Organization for Reconstruction) sent a letter including the approval of the tribunal commission to assign the works of water and sewerage in Al-Hallous and Al-Bahtini to the Arab Contractors Company within the assigning decree number 36 of 1994 with the fund coming from the Governorate's investments and supervised by the Reconstruction Organization.

- On 9.2.2003, the Chairman of Sinai Urbanizing Organization (Sinai & Canal Zone) sent a letter to the Arab Contractors – Canal Branch indicating that the competent authority had agreed to assign the works of water and sewerage in Al-Hallous and Al-Bahtini to the

Arab Contractors at a cost of EGP 18million (It is worth mentioning that the figure is not correct). The Project objected to that letter and only Al-Hallous sewerage works were carried out.

- On 5.4.2003 a committee was formed (by Ismailia City Council, Sewerage Administration, Sinai Reconstruction Organization and Arab contractors) to hand the site over to the Arab Contractors so that sewerage works could be started.

4.1.2 Implementation Phases

Contractor: Arab Contractors (Canal Branch)

Works total cost: 5,500,000?

Implementation Duration: 30 months

Beginning Date: 1.7.2003

End Date: 4.10.2005

Implementation period had an extension period of six months till 30.3.2006 then further extended to.....

4.1.3 Project Components:

- 1- Slumping network of glazed stoneware pipes (7" to 20") at a total length of 6600m.
- 2- A pumping line of flexible P.V.C. starting from 7" to 20" with 6600 m.
- 3- Pumping station

4.1.4 Accomplishments:

1. Arab Contractors
 - Trying and handing over Al-Hallous pumping station with a total power of 40 liters per second and a total capacity of 1850 cubic meters per day. It was handed over to the Administration of Sewerage at the City Council according to the report dated 27.10.2007. The station was operated on a regular basis by the Administration of Sewerage at the City Council.
 - A flexible P.V.C. 1270 meter pumping line with a diameter of 250mm was set up and handed over to the Administration of Sewerage at the City Council on 18.2.2008.
 - A 7870 meter network of pipes with different diameters for (pumping – pooling – branching) lines was constructed and handed over.

- 150 meter sewages were constructed and handed over.
- 120 (60x60) sanitary manholes were constructed and handed over.
- It was noticed that many problems existed between The Arab Contractors and sub-contractors because financial flows were not going as planned which led to the sub-contractors complete halt on many occasions. The national coordinator of the Project decided to invite the Seasonal Contractor (registered with Ismailia City Council – Administration of Sewerage) who carried out the following:
 - Constructing and handing over of 2195 meter of P.V.C. pipes – 8" and 6" diameters in branch lines and house connections.
 - Constructing and handing over of 83 sewages.
 - Constructing and handing over of 162 square (60x60cm) sanitary manholes for house sewage.
 - Constructing and handing over all house sewage lines of Al-Hallous in addition to some limited lines that cause problems at Al-Bahtini schools.
 - A study is underway of the areas where sewage construction was impossible to reach a decision before the end of the Project.

Total Works carried out by the construction department of the Arab Contractors/Seasonal Contractor as of 26.3.2008 after handing over and operation.

- 1- 10065 meters of stone and P.V.C. pipes of (better to be with instead of of) different diameters.
- 2- 223 sewages.
- 3- 282 square (60x60cm) sanitary manholes and house connection.

Areas with some obstacles were defined together with some house connections to be finished before the pavement works to avoid digging again once the roads building is completed.

4.1.5 Obstacles to Implementation:

- A slum drinking water network for houses was set up by Abu-Atwa Developing Project affiliated with Ismailia Governorate. The project which was responsible for

developing Al_Hallous and Al-Bahtini areas issued property documents to residents to start the ownership procedures. This came through urgent assessment visits by Nefeeshah municipality.

- There were sewage lines to many houses that flowed into the agriculture irrigation stream for lands on the opposite side of the main road.
- Failure of Abu-Atwa Development Project to allocate replacements for residents affected by new road building. When such replacements were assigned laws were passed to oblige trespassers. Such laws were different from the stipulated rules by Abu-Atwa Development Project. There were then two values for lands and for urgently prepared assessments. Additionally the process was slow because there were four commissions that were to investigate trespassing. Such commissions looked equally at already existing trespassers and residents and new trespassers who built fences around large areas of land.

In this regard, the Project held many sessions to coordinate between representatives from the City Council, the Implementation Company, The Construction Organization, Suez Canal Authority (Water Supply Department) Abu-Atwa Development Project/ Nefeeshah Village/ Sewerage Administration/ Road Administration/ Electricity Company/ Telecommunication Company and residents representatives. The Project decided (together with The Italian Cooperation Fund and the United Nations Development Program) decided to set up utilities in narrow streets as they were without any further waiting for decisions to be reached by commissions formed under decree # 2041 to which more commissions (formed by Ismailia Governorate) were added to review and follow up.

Number of Coordination Sessions

residents	Consultants– officials	Committees
20	170	24

4.2 Sewerage Project at Al-Bahtini:

In 1984, the National Authority for Water and Sewerage constructed sewage networks at Al-Bahtini, only in the following main areas:

- Al-Bilajat Road (650 meter)
- Deer Alnahya Road, from the youth center to the pumping station (600 meter)
- Dar Almonasabat street, up to Althalatheeni tower (300 meters)

4.2.1 Temporary Pumping Station:

The residents of the surrounding alleys and streets extended random connections, using unsuitable pipes. The leaning pipes, along with the rising water table – the upper level of groundwater-resulted in many sewage pools in Al-Bahtini region.

This rising water table was caused by the high water level of "Ismailia" canal and Lake "Temsah".

Some areas lack sewerage services, since they are located at a ground level lower than the sewage networks and could not be connected to it at that time. This led residents to set up some stand-alone tanks to dump their sewage into the network.

Other residents dumped their sewage into the covered sewerage line, which was constructed a long time ago in accordance with Irrigation Directorate in Ismailia .

This sewerage line is pumped into Sayadeen Lake causing the contamination of the western lake.

Some areas, from the main complex at Dayer Alnahya street to the sewerage station, show an overflow of sewage among residential areas.

There is also a sewage overflow on Bilajat road, as the main complex can't sustain all sewage.

The governorate of Ismailia has invited tenders for the sewerage contract among contractors and specialized companies. Procedures were taken in accordance with stipulated regulation. Al-Shatoory Company for Trade and Constructions was contracted to implement the project, under the supervision of Sewerage Directorate at the City Council.

- total cost : EGP 2.460.050
- Process duration: 12 months.

4.2.2 Implementation Phases

- The work began at the site on: 29/9/2005.
- The work was completed on 9/9/2006. The process was extended till 25/12/2006 to finish some extra work that was not planned for prior to the starting date. The project administration agreed on the same prices, and the total cost of the process reached EGP 3.246.269.

4.2.3 Project Components

- Establishment of elementary and secondary networks with varied pipe diameters (150 – 500 mm.)
- Sanitary Manholes / Covers.

4.2.4 Achievements

- 6000 meters of pipes was extended to the main complexes and secondary sewerage lines. They are P.V.C pipes with varied diameters (150-500 cm.)
- 613 sanitary manholes were established .All manholes are square (60 x 60 cm.)
- 538 manholes were established in the main and secondary complexes.
- All construction was finished on 26/12/2007 and was handed over to the Sewerage Directorate at the City Council for operation and maintenance.

4.2.5 Obstacles to Implementation Process

- Water connections set up by the residents are overlapped.
- Residents interfere to place sewerage covers away from their house entrances.
- Open spaces that are not planned. (the project prepared suggested plans for using such areas).
- Work was halted for two months in accordance with the instructions of the National Authority for Water and Sewerage to implement the disposal line that was incompatible with the Sewerage project.
- The National Authority coordinated with the Project administration and City Council to implement the disposal line.
- The Suez Canal University - water administration lines, coordinated with the sewerage administration at the City Council.
- Many committees were formed to coordinate between residents, public and executive authorities concerning the digging works in streets.

4.2.6 Coordination Committees

Number of Coordination Committee Meetings

residents	Consultants– officials	Committees
25	150	32

Annex 5: Working Groups

Utilities / Urbanization Upgrading 2007

No. Of Groups	Group Details	Executives		Nile for Roods		Arab Contractor		Public		PSUHB		Local Councils		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F
19	Utilities Groups	101	12	8	-	17	-	34	16	59	18	1	-	221	46
4	Urbanization Upgrading Group	16	2	1	-	-	-	19	5	14	5	-	-	49	12
Total		117	14	9	-	17	-	53	21	73	23	1	-	270	58
		131		9		17		74		96		1		328	

Social Services 2007

No. Of Groups	Group Details	Executives		School Pupils		Public		Local Councils		PSUHB		Total	
		M	F	M	F	M	F	M	F	M	F	M	F
34	Social Services Group "Women hand skills training / Scholl Pupils acting activities / Id Cards.."	15	2	270	150	38	120	17	4	10	35	350	311
Total		17		420		158		21		45		661	

Social Services / Urbanization Upgrading / Social Services 2003 - 2006

No. Of Groups	Year	Groups name	Executives		Consultant		Experts		Public		PSUHB		Others		Total	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F
1	2003	Utilities Groups	12	1	-	-	-	-	-	-	2	1	-	-	14	2
7	2004	Utilities Groups	42	4	4	-	-	-	-	-	10	6	-	-	56	10
1		Urbanization Upgrading Group	7	-	2	-	-	-	-	-	3	1	-	-	12	1
4		Social Services Group	19	7	4	-	-	-	44	31	10	4	1	1	78	43
29	2005	Utilities Groups	140	22	5	1	-	1	51	12	7	4	2	-	205	40
4		Urbanization Upgrading Group	29	4	1	-	-	-	30	20	7	3	1	-	68	27
8		Social Services Group	36	9	-	6	22	5	34	21	32	15	17	1	141	57
27	2006	Utilities Groups	46	1	-	-	-	-	4	-	15	3	4	-	69	4
2		Urbanization Upgrading Group	3	-	-	-	-	-	6	-	4	3	5	2	18	5
12		Social Services Group	-	4	-	-	-	-	47	205	12	4	-	-	59	213
95	Total		334	52	16	7	22	6	216	289	100	43	30	4	720	402
			386		23		28		505		143		34		1122	

Training on Participatory Planning for Land Management – related committees' members and Heads and Local Councils in Collaboration with the General Organization for Urbanization Planning	1- / 12 / 2007	6	2	15	-	1	-	-	-	2	2	-	-	-	-	2	2	1	-	-	-	-	-	-	24	5	
Workshop on Land Management and Slums Upgrading in Collaboration with the General Organization for Urbanization Planning	19-20 / 4 / 2008	25	2	3	-	1	-	-	-	1	1	-	-	-	-	4	2	2	2	-	-	-	1	1	-	23	6
Workshop on Planning of Low Income Housing Areas bordering agricultural land in Collaboration with the General Organization for Urbanization Planning	5-6 / 4 / 2008	14	1	1	-	1	-	-	-	2	1	-	-	-	-	6	3	-	-	-	-	-	-	-	24	5	
Total		53	8	61	3	39	12	21	5	5	4	6	4	9	-	31	17	5	2	1	-	-	1	1	-	22	56
																								6	282		

Annex 7: Questionnaires Used To Investigate Stakeholders' Opinion

	To whom asking this question(key persons	Question
Project stakeholders and their contribution		
1	Project steering committee Authorities contribute in execution Inhabitants , local leaders	Who is the project champion?
2	Project steering committee Inhabitants , local leaders	Who are the persons organizations involved with the project?
3	Project steering committee	Is there any periodical meetings
4	Project steering committee Local city government Inhabitants , local leaders	Where were these meeting held (constant –un constant place)?
5	Project steering committee Local city government Inhabitants , local leaders	Was the meeting place inside outside El-Hallous El-Bahtini area?
6	Project steering committee Local city government Inhabitants , local leaders Inhabitants , local leaders	Was the meeting timings suitable and was advertised about f adequate period
7	Project steering committee Local city government Inhabitants , local leaders	What are the Authorities which represent children in meetings
8	Project steering committee Local city government Inhabitants , local leaders	what are the Authorities which represent women in meetings
9	Project steering committee Local city government Inhabitants , local leaders	what are the Authorities which represent people of limited income in meetings
10	Project steering committee Local city government Inhabitants , local leaders	Mention f what extent , the projects result succeeded in fulfilling people ambitions
11	Project steering committee Local city government Authorities contribute in execution Inhabitants , local leaders	Mention the obstacles that faced the project
12	Project steering committee Local city government	To what extent people respond to the project results
13	Project steering committee Local city government	And What is the aspect f that
14	Project steering committee Local city government Authorities contribute in execution Inhabitants , local leaders	What did you dream to be fulfilled within the project
15	Project steering committee Local city government Authorities contribute in execution Inhabitants , local leaders	What area the obstacles that project succeeded in solving
16	Project steering committee Local city government Authorities contribute in execution	What are the cooperation aspect toward the project

17	Project steering committee Local city government Authorities contribute in execution	Discuss the tools of cooperation and commitment occurrence from the society
18	Project steering committee	Discuss the tools followed from the project manager following goals and efficiency of the project done on the level of two areas
19	Project steering committee	Discuss the tool of achieving the priorities
20	Project steering committee	Mention how the meeting was managed in a positive way
21	Project steering committee Authorities contribute in execution	How was the society invited to the meetings
22	Project steering committee Local city government Inhabitants , local leaders	What was the meeting topic which had the highest percentage of attendance
23	Project steering committee Local city government Inhabitants , local leaders	Was the points of discussion during meetings was specified
	Workgroup	
24	Project steering committee Local city government Authorities contribute in execution	How was the meetings and the team wks helped in executing the project(examples)
25	Project steering committee Inhabitants , local leaders	Who was the leader of team wks
26	Inhabitants , local leaders	From whom was the team wks consist
27	Project steering committee	Mention the procedures of preparing the execution workgroup?
28	Local city government	Mention the problems that still exist?
29	Inhabitants , local leaders Project steering committee Local city government Authorities contribute in execution	Where was the meeting of team wks held, and was it periodically permanently?
30	Project steering committee Local city government Authorities contribute in execution	Describe the obstacles you faced in preparing these group work?
31	Authorities contribute in execution Project steering committee Local city government	How you managed these obstacles
32	Project steering committee Inhabitants , local leaders Local city government Authorities contribute in execution	What are the contributions which made by team wks in framing the important obstacles
33	Local city government Authorities contribute in execution	Describe, how you contribute in improving the performance of project execution, give examples?
34	Inhabitants , local leaders Local city government	Describe the problems and obstacles rise up during meeting, explain what related to the meetings you attended?
35	Inhabitants , local leaders Authorities contribute in execution	How can they overcome these obstacles?
36	Project steering committee Local city government Inhabitants , local leaders	What are the benefits gained from this workgroup in project execution, from your point of view?
38	Authorities contribute in execution Inhabitants , local leaders	What are the benefits that you want to be fulfilled during these meeting but it doesn't?

Capacity Building		
39	Project steering committee Local city government Authorities contribute in execution	In which fields new skills was built during project?
40	Project steering committee Authorities contribute in execution Inhabitants , local leaders Local city government	Describe the ways of building capacity during wk, technical training program, wk shops?
41	Project steering committee	What are the skills which was decided to evaluated during the project and didn't happen, what are the reasons?
42	Project steering committee Local city government Authorities contribute in execution	What are the Authorities which affected by the association organization in steering committee and planning the project?
43	Project steering committee Local city government	Discuss the behavior change stages for the people involved towards the project?
44	Authorities contribute in execution Inhabitants , local leaders	To what extent increased the building capacity and rising awareness of people as(trust,-conversation-cooperation-)?
45	Project steering committee Authorities contribute in execution Inhabitants , local leaders Local city government	Is the society in both areas with the cooperation of all its association capable of leading and sustainably developing the area by himself, if the answer is no, define the case?
Project Outputs		
46	Project steering committee Local city government Authorities contribute in execution Inhabitants , local leaders	Did the areas changed during the last three years? In urban environment? In social environment?
47	Project steering committee Local city government Inhabitants , local leaders	What area the aspects that assure the continuity of improving living condition f women ,if found?
48	Project steering committee Local city government Inhabitants , local leaders	What area the aspects that assure the continuity of improving cultural level between, if found?
49	Project steering committee Local city government Inhabitants , local leaders	What area the aspects that assure the continuity of improving health condition for children, if found?
50	Project steering committee Local city government Inhabitants , local leaders	What area the aspects that assure the continuity of improving neatness, if found?
51	Project steering committee Local city government Inhabitants , local leaders	Is there any improvement in sewage service?
52	Inhabitants , local leaders	Is there any improvement in living conditions of hunters, discuss?
53	Project steering committee Local city government Authorities contribute in execution	Discuss how the execution authorities changes the way in dealing with the two areas?
54	Project steering committee Local city government Authorities contribute in execution Inhabitants , local leaders	Is there any obvious tool f collection of existing data and is these information clear f all the inhabitants?
55	Project steering committee Local city government Authorities contribute in execution Inhabitants , local leaders	Describe the social reward f the project?

Participation consultation		
56	Project steering committee Local city government Authorities contribute in execution	Did you participate in the project?
57	Local city government	Did your authority attend the periodical meetings?
58	Local city government Inhabitants , local leaders Inhabitants , local leaders	Count the public partial meeting connected to the project that you attended ?
59	Local city government Inhabitants , local leaders	What is the last meeting date?
60	Inhabitants , local leaders	Is the place of meeting was convenient
61	Local city government	If you are one of the persons have the power of management and decision making , did you did any changes f benefit of the project?
62	Local city government	Who was the representative inside meetings (private sect_ execution authorities- women youth,...)?.
63	Local city government Inhabitants , local leaders	What was the average numbers of attendance?
64	Authorities contribute in execution Inhabitants , local leaders	What is the way of your contribution in different stages of the project?

Annex 8: Administrative & Organizational Structure of Ismailia City

The administrative and organizational structure for Ismailia city is consisting of several administrations and departments that affiliate to the city chief office, which are:

1. **City Secretary General Office:** the financial affairs administration exist The administrations of birth, death, contracts, purchases also lies under the City Secretary General Office.
2. **Engineering Affaires Administration:** it is concerned with all the urban development and services issues of the city, the engineering drawings and the properties (AMLAK) and public relations.
3. **Information (IT) and decision making support:** it is concerned with preparing and developing the data to support decision makers.
- 4- **Planning and Monitoring Administration:** its main task is following up and tracing all the tasks of the executive council of the city.
4. **Security Administration:** it is responsible for security and discipline.
5. **Citizens Services Administration:** its task is to facilitate the procedures and work to overcome the citizens problems and it was consisting of (the complaints-information) administrations.
6. **The Economic Development:** It is concerned with facilitating the local economic development and it is consisting of the village development and the housing department).
7. **Legal Affairs Administration:** its task is to follow up all legal related matters and consists of :the issues-the investigations-the legislation and advisory "Fatwah"-the secretary and savings administrations.
8. **The Monitoring Office Administration:** its task is coordination and monitoring.

Annex 9: Urban Structure of Ismailia City

The urban structure of the city had been divided by the plan into:

1-Housing Area of Suez Canal Authority

This area is Located in the south eastern part of the city with distinctive urban and architectural character. With relatively wide roads, good infrastructure and facilities,

2- Sheikh Zaid Area

Located at West of Ismailia University. Buildings are in good conditions and have average height of 5 floors

3- Housing Area for Small and Micro Enterprises (Herafeyeen)

North of Sheikh Zaid area with good conditioned 4-5 floors buildings.

4- Hai El-Salam Area

North part of the city where buildings with good condition represented about 40% and heights range from 1 to 4 floors

5- Old Residential Area

This area is the main origin of the city where the deteriorated buildings represented about 50%. The heights range from 1 to 4 floors

6- The City Center

Located on the main roads of the city which are CBD where hotels and banks are located

7- Abu Atwa Area

Located in the south of the city along Ismailia-Suez highway. Where 40% of buildings were classified with bad condition.

8- Informal Settlements

Scattered inside and outside the built-up area, informal areas are mainly residential settlements without water supply or sewage networks with average heights of 1-2 floors. Although the government had implemented several projects since 1993 to provide these areas with basic infrastructure, however, several areas still suffer from the absence of those services and infrastructure.

9- The Industrial Area

Located on Cairo - Port Said desert road, the area includes a mix of heavy, medium and light industry.

According to the previous structure plan, the city is suffering from several problems such as:

- Informal urban encroachment on agricultural land especially at the eastern direction and west of Ismailia water canal in addition to several pockets within the built-up area of the city. Regional roads and railway line which were dividing the built-up area into isolated parts and causing several traffic problems.
- Inefficient utilization of tourist sites in the southern part of the city and the waterfront on Tamsah Lake.
- Unsuitable land uses within the built-up area such as the presence of wholesale market and military camps.

Annex 10: Informal Housing in Ismailia City

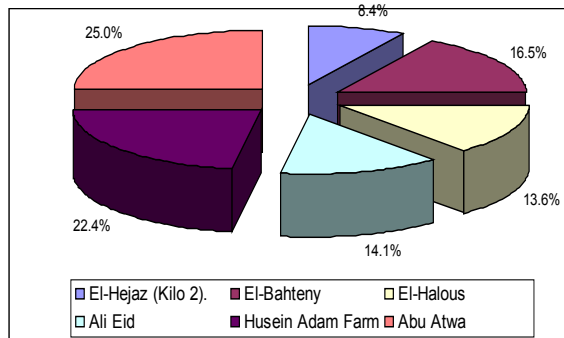
Informal Housing has developed mainly through illegally subdividing the land without planning or building permit mostly over agriculture lands. This type represented 72% of the number of informal settlements in Ismailia City, while areas developed on desert land represented only 38%.

However, both types share the same problems of lacking infrastructure and urban services, since those areas were informally established and violated all planning and building codes from the governmental point of view.

There are 6 informal areas in the city which are: (Al-Hejaz Area (Kilo 2) - El-Bahitni - El-Hallous - Ali Eid - Abou Atwa - Ezbet Hussein Adam). These areas contain approximately 18241 housing units representing approximately 11.2% of the total units in the city. They are concentrated in the rural areas at the southern part of the city.

Investments distribution that had been executed by the Government through informal areas

Informal Area	Markaz/city	Investments that had been executed by the Government				
		Planning and Organizing	Roads	Sewage	Potable Water	Electricity
Al-Hejaz Area (Kilo 2)	Ismailia	306	1280	2560	1280	1140
El-Bahitni	Ismailia		20	2400	600	150
El Hallous	Ismailia		20	5500	630	150
Ezbet Hussein Adam	Ismailia	153	640	1280	640	320
Nafisha Rail way station	Ismailia	8	32	64	32	160
Al Shohadaa Rail way station	Ismailia	8	32	64	32	16
Ein Ghesein	Ismailia	16	64	128	64	31
Abou Soueir El Mahata	Abou Soueir	106	268	536	268	134
Abou Soueir El Balad	Abou Soueir	50	128	256	128	64
El Smakein and Abou Malh	Abou Soueir	903	384		384	1920
In El Tal El Kebeir city	El Tal ElKebeir	480	1920	3840	1920	960
In El Kasaseen Al gadida city	El Tal ElKebeir	150	600	1200	600	300
In East Al Kantara city and center	East Kantara		784	1068	784	370



Percentage of Informal Units in Slum Areas

10.1 Al-Hejaz Area (Kilo 2)

This area is located northwest of the urban zone of Ismailia City on the Regional Ismailia-Port Said Road, exactly at the north area surrounded by Eljalaa Camp and the Ismailia City's Second kism. The number of housing units in this area is about 1532 representing approximately 8.4% of total informal units in Ismailia City as a whole. Construction of this area dates back to about 8-10 years.

10.1.1 General Characteristics

- This area is featured by a branching out pattern formed of a group of straight orthogonal roads and streets. Width of streets ranged between 4 and 6 meters. Breadth and length of the building ranged between 15 and 20 meters, and 6 and 10 meters, respectively.
- Despite those limitations and challenges, the city enjoyed several potentials such as the presence of several vacant plots that could be used for future urban development, the possibility of reusing the northern underdeveloped parts and the improvement of coastal areas.
- General condition of the buildings is fair because this area is more modern; therefore, it has reinforced concrete structures in most cases.
- Free ownership is also a feature in most instances, where a family owned an independent unit.
- The area has shortage in several basic services, but there is a local network of all basic infrastructure sectors.

- Average height is one to two floors.

10.1.2 Problems and Potentials in The Area

- The Area suffers from a lack of the Public Services and the infrastructure services
- Transgression on many of the state's lands and properties.
- Space liable for development is available.
- Availability of good regional and internal roads network in the area.

10.2 El-Bahitni Settlement (South of Ismailia City)

It is located next to the city's urban area (First District), on the regional road (Port Saied - El-Zakazik) surrounded by the city's urban area and Al-Temsah Lake. The number of Housing Units in this settlement is approximately 3024 representing 16.5% of Total informal Units on the city's level. Construction of this area dates back to about 20-25 years

10.2.1 General Characteristics

- This area is featured by its rural nature and its branching out pattern which formed by a group of non straight roads and streets. Width of streets range ranged between 4 and 6 meters. They are in a bad state and had no lightning in most of them.
- General condition of the Area's Buildings is fair but it has lack of Public Services.
- System of inhabiting in this area is generally renting, with an average rent of L.E 200 to 300 per month, a comparatively high level due to its proximity to the City's urban area. The Area of the majority of Housing Units ranges between (70 - 75) m². Heights in the Area ranged from 3 to 4 floors. The Area lacks many Public Services therefore it dependent on Ismailia City and the urban area.

10.2.2 Problems & Potentials of The Area

- Lack of Public Services and the Area's dependence on Ismailia City added to the burdens upon the City. Its proximity to the City helps nourishing a local economy dependent upon some economic constituents of the City.
- Availability of Space liable for development and expansion. Utilizing the Regional Road (Port Saied - El-Zakazik) in the Future Development Processes.

10.3 El-Hallous

This Area is located south of Ismailia City west of Sayaden Lake. It contains approximately 2473 Units representing 13.6% of Total informal units at the City's level. Construction of this area dates back to about 30 years.

10.3.1 General Characteristics

- This area is featured by its rural nature and its branching out pattern formed of a group of perpendicular roads and streets which depended on a main road downtown. Width of streets ranged between 4 , 6 and 8 meters. Streets state is moderate and has no lightning in most of it. Breadth and length of the building range between 15 and 25 meters, and 12 and 20 meters, respectively.
- The General condition of the Area's Buildings is fair; but they lack maintenance and development by the Government.
- System of inhabiting in this area is generally renting, with an average rent of L.E 100 to 120 .
- The Area of the majority of the Housing Units ranges from (60 - 65) m2.
- Average height in the area is two floors.

10.3.2 Problems & Potentials of The Area

- There is sufficient space for future expansion and urban development.
- Good Structural condition for most of the buildings in the Area.

- The low rise buildings provide a potential of intensified expansion that would absorb future growth of population.

10.4 Ali Eid

This Area is located south of Ismailia City west of Sayaden Lake. The Area contains approximately 2573 Housing Units representing 14.1% of Total informal units at the City Level. Construction of this area dates back to 25 years.

10.4.1 General Characteristics

- This area is featured by its rural nature and its branching out pattern formed of a group of perpendicular and parallel roads and streets. Width of streets ranges between 4- 6. They are in a poor state and have no lightning. Breadth and length of the building range between 15 and 25 meters, and 12 and 20 meters, respectively.
- Lack of Public Services in the Area; and deterioration of most of the infrastructure networks
- The General condition of the Area's Buildings is moderate; they are constructed on clay brick wall bearing system.
- System of inhabiting in this area is generally renting, with an average rent of L.E 80 to 120.
- Area of the majority of housing units ranges between 60 and 70 m2.
- The Average Height in the Area is Two Floors.

10.4.2 Problems & Potentials of The Area

- Lack of the Public Services and the deterioration of infrastructure networks in the area.
- There is sufficient space for future expansion and urban development.
- The low rise buildings provide potential of intensified expansion that would absorb future growth of population.

10.5 Abou Atwa

It is located south of Ismailia City, south of Sayaden Lake. The number of the informal housing units in the area is approximately 4562 which represent approximately 25% of Total informal units at the City level. Construction of this area dates back to about 30 years.

10.5.1 General Characteristics

- This Area is featured by a rural style dependent upon a group of roads and streets that connect it to the regional surrounding network. Widths of the streets are 4, 6 and 8 meters. They are in a fair condition and have lighting in most cases. Breadths and lengths of the buildings range between 15 and 25 meters, and 10 and 20 meters, respectively. General condition of the buildings is moderate. They are built with red brick and structured system. System of inhabiting in this area is generally renting, with an average rent of L.E 15 to 25.
- The Area of the majority of the Housing Units ranges from (70 - 85) m².
- Average height in the area is 3-4 floors

10.5.2 Problems & Potentials of The Area

- Heights is comparatively substantial, the fact that formed a considerable dense population burdens.
- Obvious transgression on the Agricultural Lands in this Area.
- A High percentage of fair Buildings in this Area.

10.6 Ezbet Hussein Adam

This Area is located south west Sayaden Lake. The Area contains approximately 4077 informal Housing Units representing approximately 22.4% of Total informal units at the city level. Construction of this area dates back to about 30 years.

10.6.1 General Characteristics

- This Area is featured by a rural style dependent upon a group of roads and streets that connect it to the surrounding areas. Widths of the streets are 4 - 6 meters. They are in a poor condition and have lighting. Breadths and lengths of the buildings range between 20 and 25 meters, and 6 and 18 meters, respectively.
- The General condition of the Area's Buildings is Poor. They are built with red brick and structured system. System of inhabiting in this area was generally renting, with an average rent of L.E 80 to 120. The Area of the majority of the Housing Units ranges from (60 - 72) m².
- Average height in the area is 1-2 floors

10.6.2 Problems & Potentials of The Area

- The low height of the buildings provides a potential of vertical intensification of buildings.
- Obvious transgression of the Agricultural Lands in the Area.
- High Percentage of Poor Buildings in this area.

10.7 Other Deteriorated Areas

El-Ubour Area

This Area is located north-west of Ismailia urban area in the Second kism of the City. It is established (25) years ago. It is characterized by the Housing and Commercial Uses. The Building Heights range between (3 - 4) floors and the deteriorated Buildings are in a poor condition constructed on wall bearing system. It consists of branching out irregular urban pattern. Number of the Housing Units was approximately 9852 representing 100% of Total Deteriorated Units.

10.7.1 General Characteristics

- This area is featured by a strap texture extended over a group of perpendicular roads and streets of four, six and eight meter widths. They are in a bad state and though mostly lit they need maintenance. Average breadth of the building is 10 to 20 meters, while length is 10 to 15 meters.
- The general condition of the Area's Building is moderate. They suffer from poor state of the utilities and infrastructure.

System of inhabiting in this area is generally renting, with an average rent of L.E 120 to 200.

- The Area of majority Housing Units in this Area ranges between (62 - 75) m2.
- The Area lacks basic services. It suffers deterioration of water supply network. Some houses are not connected to the East Pure Water Network.
- Heights in the areas are generally 3 to 4 floors

10.7.2 Problems & Potentials of The Area

- The Area suffers shortage and deficiency in pure water supplies.
- The existing buildings are in a deteriorated state, with garbage accumulated in many empty spaces of the Area.
- There are many areas liable for construction.
- The use of the Regional Road (Port Saied - Fayed) causes problems.

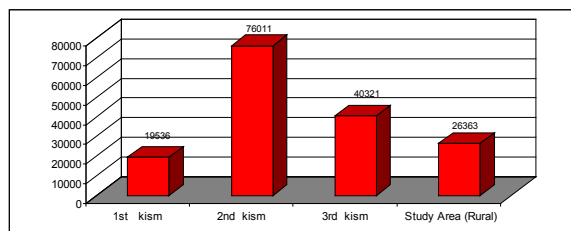
Annex 11: Housing Figures in Ismailia City

The Residential Units

Distribution of Unit & Buildings in Ismailia city

City	Number of Buildings	Number of Units	Current Use of the Unit					Others
			For Housing	For Work	For Housing & Work	General Housing	Closed & Vacant	
Ismailia	486621	162231	97548	19965	301	244	43115	1058

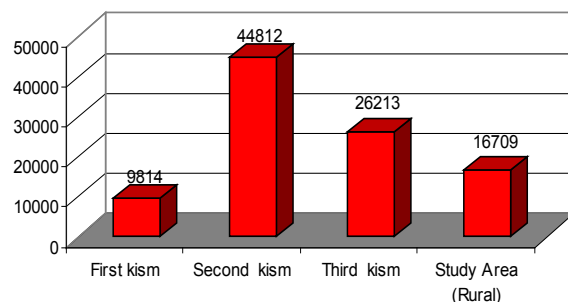
number of units study areas	for housing	for work	for housing & working	public housing	closed / vacant	others	total
1st kism	9814	3822	16	35	5616	233	19536
2nd kism	44812	10987	78	74	19518	542	76011
3rd kism	26213	3047	90	134	10670	167	40321
study area (rural)	16709	2109	117	1	731	116	26363
study area (total)	97548	19965	301	244	43115	1058	162231



Distribution of the Units at the Level Ismailia city

The Number of Residential Units in The City (Housing Stock)

Study Area	Number of Housing Units	Percentage
First kism	9814	10.1 %
Second kism	44812	45.9 %
Third kism	26213	26.9 %
Ismailia (Rural)	16709	17.1 %
Ismailia (Total)	97548	100 %



Residential Units in the City

Dominant Housing Patterns

Study Areas	Number of Buildings	Types of dominant Housing									
		building	House	Rural House	Villa / chalet	Work Buildings	Mall	Shop or More	Kiosk	Tent	Others
First kism	4497	1118	2154	--	319	273	4	183	149	2	295
Second kism	22228	4683	14717	1082	19	449	--	267	139	9	863
Third kism	6725	2320	2957	44	192	292	--	67	362	1	490
Study Area (Rural)	16054	862	8738	4766	228	391	1	522	30	14	502
Study Area (Total)	49504	8983	28566	5892	758	1405	5	1039	680	26	2150

Annex 12: Previous Effort In Slum Upgrading In The City

12.1 “Hai Al-Salam” Upgrading Project

The Project of developing Hai Al-Salam in Ismailia was considered as one of the most important projects that had been implemented in the Developing Countries; and by far one of the most successful development projects in Egypt for its achievements in the field of (community Development) based on (Self-Funding) and the community Participation. The Area was selected from the General Plan prepared in 1976 where this area was divided into two parts:

The Old Area : which was occupied by residents with area 1.32 km²,

The New Area : which was the urban Expansion area surrounding the (Old Area) with area 0.94 km²,

12.1.1 General Features of The Population:

The Development Projects which were implemented in Ismailia City relied in financing them on the principle of (Self-Funding) through the use of the money components of the project area which takes the form of the (Land Value) and the use of the (Sales Returns), to finance the project development elements such as utilities and services.

- The Area Population at beginning of the Development Project (1978) reached about 37000 individuals.
- 40% of the Populations were immigrants from EL-Sharkia Governorate West of Ismailia. Very Low Educational & Health Standards.
- 75% of the Populations were house Owners who reside there. The remaining were tenants.

- More than half of the Area Population were from the Limited and Low Income Groups.
- Approximately 25% of the Populations were employed in temporary works. They were the street vendors and the semi-skilled workers.

12.1.2 The Urban Aspects in The Project:

- Most of the region Housing units, were isolated buildings which were consisting of One Storey.
- The Area of the Houses varies from 50m² to 400m².
- Most dwellings were made of Bricks. Some of the buildings were improved using modern building materials.
- The region lacked the Main Utilities except the electricity through Aerial Network; in addition to some Public Taps.
- There were no Public Services in the Area except a Primary School. The Populations provide the Religious and Commercial Services Locations even if they were of non-civilized standard.
- The streets were irregular. There were also some longitudinal leveled streets which were not paved on which there were infested piles of rubbish and building disposals.

12.1.3 Project Priorities

a) The Provision of The Public Services:

Many of the Social Services were provided, such as Mosques, Youth Centers, Medical Centers, Markets, Schools, Post Office and a Central. The Following Table Shows the Social Projects, and the Costs added to the project since its setting up in 1976 and until its stability and success in 1985.

The Implemented Services

The Implemented Services	Number	Costs (L.E)	Percentage
1) The Youth Centers.	2	85441	4.17%
2) Mosques.	3	147740	7.21%
3) The Project's Building.	1	66800	3.26%
4) Medical Centers.	1	18750	0.92%
5) Commercial Market.	2	47400	2.31%
6) Half-Automatic Bakery.	1	51650	2.52%
7) Ceremonies House.	1	54000	2.63%
8) Schools.	8	688600	33.58%
9) Streets.	34 Km. L.	850150	41.47%
10) Social Service Building.	1	19190	0.94%
11) Post Office.	1	20230	0.99%
T O T A L :	20	2050000	100%

b) Improved Housing:

The Populations were encouraged to re-build their homes using modern construction materials through tenure codifying using the postponed ownership system; and specifying some conditions and rules to force the population to follow-up when re-building the houses

c) Provision of The Infra Structure:

The Utilities Networks were planned on phases according to the expected Cash Flow for each phase together with the provision of the service temporarily until the completion of the networks. For Example, at the beginning of the project, (40) public water taps were executed to provide the services which were dispensed with after the installation of the water network in the district.

12.1.4 Funding Hai Al-Salam Project

Hai Al-Salam Project was funded by several sources to implement the elements of the Projects, which were:

- a) The returns from selling the Lands.
- b) The foreign Aids.
- c) The Governmental Funding.

a) Returns from Selling The Lands:

The Project Land was divided into the following three types:

- Selling the Distinct Lands in the New Area of the district in the (Public Auction). Until the Year 1985, 215 Plots were sold which represent 2.8% of the Total Project Area, where the Sale returns reached L.E 3.2 million.
- Allowing the ownership of Land squatters to holders with low Prices at maximum area of 150 m² for each holder. 5448 land plots were possessed up to year 1985, representing 70.6% of the Total Project's Area. The Total Sales returns were L.E 2 million.
- The Land plots in the New Area were sold using the (Lot) System where approximately 2065 Land plots were sold which represent 26.6% of the Total Area. The Total Value of the Sales reached L.E 5.25 million.

b) Foreign Aid:

The foreign Grants contributed with a Sum of 3.8 \$ million from the (USAID).

The Egyptian Government contributed with a Sum of 5.7 L.E million.

Distribution of Costs spent for the Project's Elements from Year 1976 to 1991

Granting Authority	Water Disposal	Water Networks	Electricity Network	Total Sum
1)USAID	\$2.11 million	\$1.7 million	-----	\$3.81 million
2)The Egyptian Government	L.E3 million	EGP2 million	EGP 680000	EGP 5.68 million
3)Self-Financing of the Project.	EGP3 million	EGP 750000	EGP1.5 million	EGP 5.25 million
T O T A L	\$2.11 million EGP6 million	\$1.7 million EGP2.7 million	EGP2.2 million	\$3.81 million EGP 10.9 million

12.2 “Abu Atwa” Upgrading Project

Abu Atwa upgrading Project was the second of the development projects that had been implemented in Ismailia. It was selected according to the recommendations of the General Plan for Ismailia City. Abou Atwa Area located in south Ismailia over an Area of 756.2 acres (3.03 km²). It was surrounded by agricultural lands from all the directions whose population reached 20000 Individuals at the beginning of Project.

12.2.1 Social Features of the Population:

- Most of the Populations were of Rural Origin (Approximately 90%).
- Approximately one third of the area's population work in agriculture. The rest were governmental employees, limited income group and craft Labor.

The Area covers more than 15% of the immigrants from El-Sharkia Governorate; and approximately 20% of Egypt's agricultural workers and the ordinary labor.

The Rate of Illiteracy was higher than that for the remaining Governorate. It reached approximately 55% of the Total Population.

12.2.2 Urban Features:

Most of the Buildings were separated from each other; and they were consisting of one storey and were built from the Red bricks.

The Residential Buildings were penetrated by agricultural lands and uncultivated lands in addition to water drain.

The region doesn't contain any type of infra-structure. The only services which exist were religious.

12.2.3 Project's Priorities

a) The Provision of Basic Services:

During the Project implementation period, the following services existed :

Number of Services Provided

Type of Service	Number
1) Primary & Secondary Schools	3
2) Mosques & Ceremonies Houses	7
3) The Youth Centers	4
4) Religious Institutes	1
5) Medical Centers	1
6) Automatic Bakery	1
7) A Police Station	1
8) Fire Unit	1

b) The Infra-Structure:

The implementation of the infra-structure for (Abou Atwa) Development Project was according to a time schedule program. The Project started executing the Water Network as a first phase. It was followed by completing the remaining infra-structure elements till year 1985. The Costs of Utilities were approximately L.E 1.5 million which were collected from selling lands to squatters.

c) Improving The Houses:

The Residents were encouraged to improve their houses through granting them postponed ownership contracts for their lands, to be registered immediately at the start of building or improving the housing according to the organization lines, conditions and standards set by the Project Management.

12.2.4 The Project Funding:

The Project depended on (Self-Funding) method through selling the lands to the squatters with the same conditions that were used in Hai Al-Salam development Project till the year 1985 where the following were sold:

- Distinct Lands Sold in the Public Auction (172 plots of Land).
- Lands Sold with the lot System for the Residents (150 Plots).
- Lands which were possessed to their holders.

12.2.5 Community Participation:

The Participation of (Abou Atwa) Area Population, contributed in the success of the Project. This contribution was simple at the beginning of the project but it increased during the project implementation phases. It took the following forms:

- The Provision of the Religious Services.
- The Participation of the Population Leaderships in persuading their relatives of the Project's Advantages.
- Self-Participation in improving and re-building the housing.
- Participation in the Project Cleaning and landscaping Campaigns.

12.3 "Manshiya El-Shohada" Upgrading Project

Manshiya El-Shohada Project Area lies in the western side of Ismailia City, on an Area of 597 acres (2.39 km²). This Area was inhabited by 150000 Individuals and was divided into Three Parts:

- El-Shohada Area.
- El-Safa Area.
- El-Balabsa Area.

12.3.1 The Features of The Area:

- Approximately 50% of the immigrant citizens were from the El-Sharkia Governorate and Upper Egypt. Each of them carries the Social Features of the area he immigrated from.
- The Level of Educational, Health & Social services were Low.
- 75% of the Area's inhabitants were from the houses owners who reside in them.
- More than half of the area's populations were of limited income; in addition to young vendors and ordinary labor.

12.3.2 Urban Features:

- Most Houses in the Area were separate buildings consisting of One Storey Only.

- The Area of the House varies from 50 m² to 300 m².
- Most of the Houses were built from Bricks or Cement Blocks.
- The Area did not contain any type of services except the Religious ones.
- The Area was deprived of most Utility Networks except parts of the Aerial Electric Network and some Public Water Taps.
- The Streets were irregular and unpaved.

12.3.3 Development Works:

During the Project Implementation phases which started in year 1981, and until the middle of the nineties, the following were performed:

- Possession of (4981) plots of Land to their holders.
- Selling (28) Plots of Land in the (Public Auction).
- (807) Residential Units were Constructed in (27) Residential buildings, to compensate the individuals aggrieved from the streets Planning Works.

12.3.4 Project's Priorities:

- The implementation of the integrated Roads Networks to be sufficient to serve the area of (8) km² Costing L.E 1.35 million.
- The Implementation of the Whole Water Network for (El-Shohada) Area; and 80% in the (El-Balabsa) Area, Costing L.E (1) million.
- The Completion and Replacement of the Electricity Networks.
- The Water sewerage Network was implemented for the entire area, at a Cost of L.E (4) million.
- The Implementation of many services in the area such as: Post Office, Medical Center, Police Station, Public Garden, Sports Club, Community Development organization, Ceremonies House and (15) Mosques.

12.4 Development of “El-Marwa” Area:

It's located inside the Urban Block of Ismailia on an Area of 15 acres (0.06 km²). The Population at beginning of the work in the development project in year 1982 reached approximately 2000 individuals. This Project was constructed based on the experience gained from the successful development projects in Ismailia. The Area was consisting of approximately (163) Houses, most of them of one ground floor and were built from bricks. The Cement Blocks were used in the construction of many of the houses in the area. The Houses constructed from reinforced concrete, did not exceed 15% of the total area of the houses. The area was at a low level relative to the city where there were a lot of ponds and swamps surrounding the houses. There were also many insects and rodents which cause environmental pollution for the area.

After the completion of the Survey of the Area, the Plan was set to preserve the well-built buildings as much as possible, and remove the houses which obstruct the proposed roads in the General Plan of the Area. The Owners of these houses were compensated with alternative plots of land together with giving them the opportunity to establish their homes before the demolition and removal of their old buildings. Also, the boundaries of approximately (123) Houses, were amended where their parts which overlap with the Road paths, had been removed.

In Order to supply the Funding required to develop the area, the open space land plots in north of the area were utilized. (36) Plots of land were sold in the (Public Auction) ranging between 200 m² to 450m². Also Four Residential buildings had been constructed.

12.5 Upgrading “El-Safa” Area

(El-Safa) Area was located in the middle of the urban block of Ismailia. Its Area was 16 acres (0.06 km²) in which the population reached 2500 at the beginning of the Development Project in Year 1982. The Development Elements were completed in the Area by the end of Year 1989.

Social and Urban survey took place before the start of the development project. The Area's Population reached 2500 individuals who reside in approximately (217) Houses where the house area ranges between 75 m² to 150 m². Most of these buildings were consisting of one ground floor and most of them were built using the Ordinary Bricks and the Cement Bricks. The Roofs were built using either Woods or palm trees trunks. We also noticed the rise of the underground water level in the area, which resulted in the formation of a water pond in which the itch Reed was grown. It was an environment for the insects and rodents.

A Detailed Plan was prepared for developing the area. This Plan concentrates on preserving the relatively good state buildings. Through this plan, the houses which obstruct the organizational lines (is that expression is valid??) were identified. (118) houses were removed and their owners were compensated with alternative lands in the same area. As for the residents, five buildings had been built containing 100 Housing Units, to replace their current accommodation.

The Water Pond was demolished and improved. A project was prepared to divide this Pond to (22) Land Plots where the Area of the plots of Land Ranging between (120m² – 350m²) which were sold in the Public Auction; and their Sales Returns were used to provide utilities and services to the area. Also, the returns from selling of the squatters lands to the houses owners, were collected at a low Price which ranges between L.E (4 – 12) Per meter Square.

12.5.1 The Utilities and Services in The Area

The Water Network was implemented completely in the area at a Cost of L.E 100000.

The Aerial Electric Network was developed with an Earth Network and the Roads were illuminated at a Cost of L.E 50000.

The Roads Network in the Area was implemented at a cost of L.E 200000.

The Sewerage Network was implemented and connected to the city's network costing approximately L.E One Million.

- This was in addition to the Project's contribution in developing one of the Schools near the area, and the construction of a Mosque and a Public Garden in the Area.

12.6 The upgrading of "Zamzam" Area

(Zemzam) Area was located in the middle of the urban block of Ismailia City, between (El-Safa) and (El-Marwa) Areas. Its Area was 5.5 acres (0.02 km²). Work in this area started in year 1984. A Social and urban Survey was performed in the area which shows that the population reached 250 individuals in 63 houses in which the Area of the House varies between 85m² to 170m² and most of the buildings were consisting of one ground floor and they were characterized by their rural nature where a large percentage of the residents use the Bricks and Cement Blocks in constructing their homes.

A Plan was prepared to develop the area in a way which preserves the general pattern of the region, reduces the size of removals and concentrates on adjusting the houses boundaries to conform to the proposed plan of the area.

The Owners of the houses which were removed were compensated by alternative land plots in the same area. Also, three residential buildings were constructed to compensate the families who inhabited the same area which contains 60 Housing Units.

12.6.1 Utilities and Services in The Area

- A Water Network was constructed for the Area Costing EGP 48000
- A road network was constructed costing EGP 50000
- An Electricity Network was implemented Costing EGP 75000
- A sewerage Network was constructed and Linked to the City, Costing EGP 250000
- This was in addition to the Services which were executed in the area where the Project contributed in setting up a number of classes in the Primary School near the area; building a fence for it and the set up of the (Public Garden) which was opposite to (El-Ferosia Garden) area.