The Aga Khan Award for Architecture

ARCHITECT'S RECORD **CONFIDENTIAL**

I. IDENTIFICATION

Project Title: Moquattam Zabbaleen Community Improvement

Street Address: Moquattam - Manshiet Nasser

City: Cairo Country: Egypt

Telephone: Telex:

II. PERSONS RESPONSIBLE

A. Architect: Nagi Aziz, Hisham Shawki, Emad Farid, Maged George, Amr Amin

Mailing Address: Environmental Quality International (EQI)
18, Mansour Mohamed St., Zamalek

City: Cairo Country: Egypt

Telephone: Telex:

B. Client: Moquattam Garbage Collectors Association (Gameya)/

Mailing Address: Association for the Protection of the Environment (APE)
P.O. Box 28 & 32 - El Qualaa

City: Cairo Country: Egypt

Telephone: Telex:

C. Consultants (e.g. Economists, Sociologists, Demographers, Engineers)

Name: Environmental Quality International (EQI)

Mailing Address: (Same as above)

City: Country:

Telephone: Telex:

D. Contractor: Local Contractors/El Hadidi Contracting Co.

Mailing Address: 32 Jihan St., Mansoura, Egypt

City: Mansoura Country: Egypt

Telephone: Telex:

E. Master Craftsman: Community residents

Mailing Address:

City: Country:

Telephone: Telex:

The following abbreviations are used: H For housing project
C For compost plant
NA Not applicable

III. USE

A. Specify type(s) of Use: H: Shelter C: Generating income & cleaning up environment

B. User/Occupant

1. Occupation/Profession H: Garbage collectors C: Unskilled laborers working for the Association for the Protection of the environment (APE)
2. Income Level (check one) _____ High _____ Medium _____ Low _/_ Mixed

C. Specify any change(s) between planned and actual use:

No Change(s)

IV. PROJECT TIMETABLE

(Please specify year and month)

A. Design:	Commencement	H: 81 C: 81	Completion	H: 84 C: 85
B. Construction:	Commencement	H: 81 C: 86	Completion	H: 85 C: 86

C. Date of Project Occupancy H: Upon completion on a case-by-case basis

C: 86

V. PROJECT ECONOMICS

(Please specify amount, currency and date of transaction)

		Amount	Currency	Date(1)
A. Total Initial Budget	H:	100,000	$	
	C:	~~140,000~~	~~$~~	
B. Total Actual Costs	H:(2)	100,000	$	
	C:	~~258,500~~	~~$~~	
C. Actual Cost per sq. m.	H:	40-50	LE	
	C:	~~Approx. 20~~	~~$~~	
D. Analysis of Costs				
1. Land	H:	50-120 per m^2	LE	
	C:	30,000 per year rent (from government)	LE	
2. Infrastructure	H: NA(3)			
	C:	75,000	$	
3. Labour)	H:	150 per m^2	LE	
)				
4. Materials)	C:	~~110,000~~	~~$~~	
5. Professional Fees	H:	22,200	LE	
	C:	~~73,500~~	~~$~~	

E. Cost Comparison

1. Please indicate how the costs of this project relate to typical building costs in the country (check one):

_____ Average _____ Above Average H: _/_ Below Average
C: NA

F. Sources of Funds

1. Please indicate the percentage of funds that came from:

H: 100%
C: 100% Private Sources _____ Public Sources

2. If funding was public, what percentage was from:

_____ local _____ national _____ international sources

(1) Since all payments have been ongoing, no specific dates can be provided.

(2) In addition to individual participation of each beneficiary.

(3) A separate project costing $ 1000,000, funded by the World Bank, introduced an infrastructure for the settlement as a whole. All units in EQI's housing project benefitted from this infrastructure.

(1) A total of 120 housing units were built on pre-defined lots already inhabitated by garbage collectors living in tin shacks. The average area for each unit built was 50 m^2.

Since most inhabitants expanded vertically and/or horizontally beyond the intial units, precise data cannot always be provided.

VI. CONSTRUCTION DETAILS

A. Site and Building Area (please indicate in square metres)

1. Total Site Area: H:(1) C: 13000 m^2

2. Total Ground Floor Area: H:(1) C: 216 m^2 (administration building)

3. Total Combined Floor Area (including basement(s), ground floor(s) and all upper floors): H:(1) C: 432 m^2

B. Construction and Technology

1. Describe the structural system and the basic method of construction

Concrete skeleton cast on site.

2. Indicate which major building parts were fabricated on-site and which were fabricated elsewhere

H & C on-site fabrication: plastic piping for electric wiring, tiles, doors and windows (produced on site as part of small industries project - see append.)

*H & C raw material for reinforced concrete (RC) C: Equipment

C. Description of Materials
(please also indicate if locally produced or imported)

All materials produced locally.

1. Foundations

H: RC semelles on rock
C: RC separate footing

2. Principal structural members

H & C: RC beams & columns

3. Infill

H & C: Sand

4. Rendering of Facades or Exterior Finishes

H: Cement plastering
C: Stucco

5. Floors

H: Cement tiles
C: Mosaic tiles

6. Ceilings

H & C: Stucco

7. Roofing

H & C: RC slabs

8. Other elements (please specify)

D. Type of labour force (please indicate percentage)

H & C 40% Skilled Workers 60% Unskilled Workers
C: Equipment installation: 100% skilled labor

E. Origin of labour force

H & C 100% Domestic Foreign For equipment installation in C: 100% foreign

VII. GENERAL GEOGRAPHY AND CLIMATE

A. Please describe the local geographic characteristics:

The settlement is located east of Cairo at the foot of the Moquattam hills, on approximately 40 hectares. Its uneven terrain is characterized by radical changes in elevation and a rocky subsoil.

B. Please describe the local climatic characteristics:

The climate is hot and dry in summer and mild in winter, with occasional rainfall.

VIII. EVOLUTION OF DESIGN CONCEPTS

Please describe the history of the project, from its conception to its final construction and actual use.

H: The advent of the government's formal land tenure program encouraged the residents of the Moquattam zabbaleen community to invest their money in converting their homes from tin to stone and brick buildings. The transformation in the building structures took place at the settlement on an ad hoc basis, with no consideration to laying out adequate foundations for the houses or to infringements on public space. In an attempt to reduce the undesirable consequences of unplanned and unrationalized building methods, EQI proposed the establishment of a loan fund for housing construction tied to the provision of architectural services to loan recipients and other community members.

The initial plan for the housing project was to set a total budget of LE 1150 per household, with LE 550 to be paid by the recipient family and LE 600 to be paid through the fund. The rationale behind the financial contribution of community members participating in the project was that it would increase their awareness and appreciation of benefits gained and would reduce the element of charity normally associated with such projects. The target group consisted of community residents living in tin shacks.

Once a loan was ensured, on-site architects would check the existing conditions of each house to ensure that public space was not infringed upon, that the room placement maximized the separation of domestic activities from waste-related activities, and that units were structurally sound.

The units to be built were designed simply and took into consideration budgetary limitations of both donor and beneficiaries, good living conditions, and safe construction. The standard unit consisted of: one room, 4 m by 4m, 3 m high, with solid foundations capable of supporting two floors, a concrete roof, cement block walls, a door, and a window. It was flexible enough to expand vertically and/or horizontally. Beneficiaries could adjust their unit specifications to meet their needs and financial status. Technical assistance was available for any modifications requested by the owners, provided they covered the additional costs.

Close interaction with the beneficiaries introduced modifications to the original design such as increased roof height, the addition of a balcony, and so forth.

Construction was initiated on a street-by-street basis. Residents were hired to participate in construction.

This experience taught them additional skills that provided them with new and better paid job opportunities.

The housing project also used building materials produced at the settlement as part of another EQI project that deals with small industries. Plastic piping for wires, wooden frames for windows and doors, and cement tiles were all produced by residents benefitting from the small industries project.

As such, the housing component can be seen as part of a comprehensive plan to upgrade the community and offer new income-generating opportunities.

C: Cleaning up the settlement to improve sanitation was part of the community upgrading plan. EQI recommended the construction of a compost plant to dispose of accumulated garbage by transforming organic waste into a high quality fertilizer. The income generated from this plant will be invested in other community-related projects.

IX. PROJECT SIGNIFICANCE

1. In what way is this project important?

Please describe the aspects of the project which represent a particular achievement (for example the technical, economic, or social achievement, or its response to culture, climate, etc.)

1. Improved and cleaned living conditions.
2. Raised awareness as a result of community participation.
3. Improved standard of living.
4. Created a new skilled labor force and new job opportunities.
5. Promoted entrepreneurship in the community.
6. Developed organizational skills and self-management capabilities.
7. Organized community activities into a coordinated system.
8. Transformed a shantytown into a low-income housing neighborhood.

2. Please indicate the degree to which the client and users are satisfied with the project.

Clients and community residents are highly satisfied with the environmental, economic and social improvement resulting from the project.

X. PRESENTATION REQUIREMENTS

1. The materials described below are the minimum requirements for project presentation. Please note that standard presentation dossiers are prepared by the Award, and materials should not be mounted or bound. All materials should be clearly identified. The following should be submitted:

   A. Map indicating location of project in city, community, neighbourhood, or landscape.

   B. Ten (10) photographs; preferred and maximum size for A4 presentation (18 × 24 centimetres).

   C. Twenty (20) slides; 24 × 36 millimetres.

   D. Drawings; preferred and maximum size for A3 format presentation (29.7 × 42 centimetres).
   Site, Roof, and Massing Plans;
   Floor Plan(s);
   Elevations;
   Sections.

   E. Curriculum Vitae, or Firm's Prospectus.

2. The submission of additional materials is encouraged. Please specify any appended materials not listed above.

3. Please indicate other sources of information on the project, e.g. publications, contacts, etc.

   Mr. Albert Peltekian - EMENA II, World Bank/Washington
   Dr. Barbara Ibrahim, Program Officer - Ford Foundation/Egypt
   EQI project reports
   The Ford Foundation Letter - Volume 18, No. 5, October 1987

Please note: The submission of this Record is a prerequisite to candidacy for the Award. All information contained in and submitted with the Record will be kept strictly confidential until announcement of the Award is made. Subsequently, such information may be made available by the Aga Khan Award for Architecture for scholarly purposes only. Nevertheless, other persons wishing to publish, reproduce, or reprint such information shall be required to secure prior permission from the author in each instance.

Signature _____

Name (please print) _____ Date _____

All Materials should be forwarded to:

The Aga Khan Award for Architecture
Award Procedures
32, chemin des Crêts-de-Pregny
1218 GRAND-SACONNEX
Switzerland

Telephone: (22) 98 90 70 Telex: 28842 AKAA CH Cable: AKAWARDS

APPENDIX

I. The Zabbaleen Small Industries Program:

With the support of Oxfam, EQI initiated a Small Industries Program (SIP) at the Moquattam Settlement as part of the broader community development program. The SIP set up a revolving fund for the extension of loans to community residents to upgrade their waste recycling capabilities through the use of appropriate machinery. The modules (industries) chosen were inexpensive, had scope for expansion, and were simple to operate.

The goal of the program is to increase per capita income and allow community residents to develop the administrative and managerial skills necessary for them to run the operation independently. The initial LE 100,000 invested in this program have generated at least LE 255,000 over a period of two years, demonstrating the program's success.

Other benefits gained from this program include an improved standard of living, as a result of the increase in income - approximately LE 200 per month. Furthermore, job opportunities increased to the extent that some families stopped collecting garbage, focusing exclusively on small industries. Finally, one of the most remarkable effects of the program has been the growth of other industries within the settlement without the program's financial backing. It is important to note that prior to the Small Industries Program, no one owned machines for reprocessing secondary materials at the settlement. Today, over and above machinery funded by the program, 90 privately-owned units operate at the settlement generating employment for 200 community members.

II. Mechanization:

At the request of the Cairo Governorate, EQI helped the Cairo Garbage Collectors Association (Gameya) develop a program to mechanize solid waste collection services citywide. The objective of this program is to phase out donkey-drawn carts, modernizing service delivery and rendering it more efficiently.