



# Cost Recovery in Rural Waste Water Management Systems in Egypt



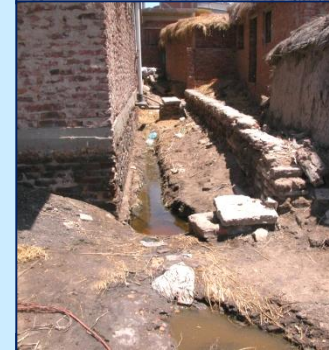
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# Project / Pilot Village

## Project

- GTZ funded
- Investments: GoE; GTZ, WB, SFD

## Pilot Village

- El Moufty Al Koubra
- Location: Sidi Salem District,
- Kafr El-Sheikh Gov.
- **Population:** 2758 (2003)  
4250 (system design)
- **Households:** 420
- Farming community
- **Waste water flow:** 320 m<sup>3</sup>/d



# Challenge / Approach

## CHALLENGE:

- Old *waste water* systems could not cope with higher flow rate
- *Ground water* contaminated
- Poor *hygienic conditions*



## APPROACH:

provision of adequate sanitation to small communities:

- have **well functioning** sewer system and treatment plant simple operation management
- operated at very **low, affordable costs**
- participation of the population coupled with **hygiene promotion**

# Concept

Establish simple and community based sewage disposal systems in order to improve hygienic conditions and reduce water pollution caused by untreated waste water.

- Project concept promotes village level operation and maintenance;
- All chosen solutions are basic, simple and require low energy consumption and maintenance capacity.

# Technology

- SBS (small-bore sewer) system to pump station
- Interceptors at each household
- Submersible pumps and pressure mains to WWTP
- WWTP as waste water stabilisation ponds in 2 streams



# Management Model

All decisions regarding planning, design, construction, management, operation and maintenance, tariffs, revenue collection, etc. are taken with / by the Community Development Association (CDA)

- Assets are wholly owned and managed by the community through the **CDA**
- **CDA** is fully responsible for management, operation and maintenance of the system



## Management Model 2

- O&M contracted out for fixed monthly sum for fixed period
- O&M contractor and CDA trained by the project (Administration, financial & technical)
- No direct employment
- No expensive equipment or vehicles etc.

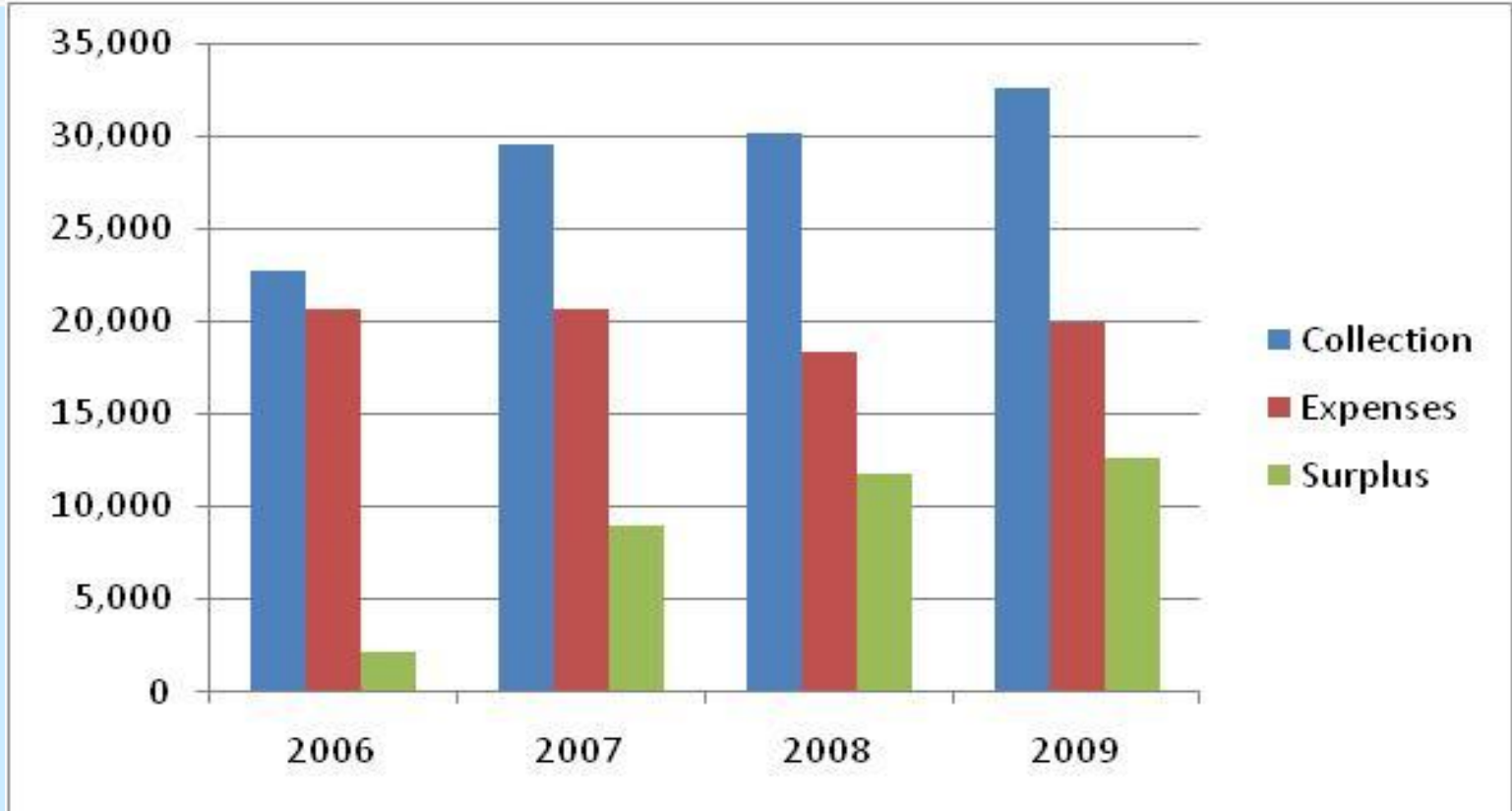


# Financial Model

- **TARIFF** set by the CDA at such a level to cover O&M costs, normal repairs, future replacements and a contribution to partial refinancing
- **REVENUES** are collected regularly, either monthly or half yearly according to the harvesting seasons
- **REVENUES** are accounted for and are subject to audit by the Ministry of Social Affair

<b>Monthly collections</b>	2,200.00+	EGP
<b>Monthly expenditures</b>	1,500.00	EGP
<b>Surplus</b>	700.00+	EGP

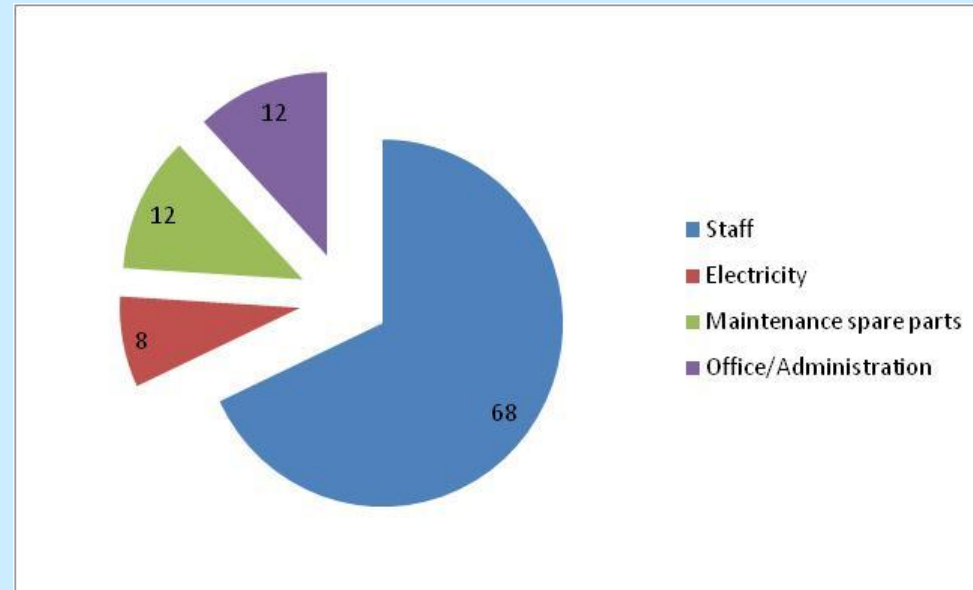
# Collection and Expenses



- In 2006 the fee per month and household was increased from 5 to 7 EGP

# Financial Results

- EGP 52,000 accumulated on bank account for repairs, replacements and maintenance expenses
- Each family pays 7 EGP / m instead of 30-40 EGP /m
- The latest tariff study proposed 12 EGP/m
- Full cost recovery would need 20 EGP/m
- Payment morale is good



# General Results

- 10 more villages signed MoUs accepting similar project conditions – implementation is on the way - 2 more schemes finalized - 3 more finished by end 2010.
- The CDA will be able to maintain the system in the future, only major investments will need additional funds
- Approach is appropriate, expectations for sustainability are high
- Since February 2005 no major breakdowns
- A high quality 24 / 7 service

# Impacts

## ***ENVIRONMENTAL IMPACT***

- Effluent complies with National and International standards
- No WW dumped into the drains
- No gray water in the streets; No washing in canals

## ***SOCIAL IMPACT***

***„Together we will make the change!“***

- Ladies: more time for families and other social / economic activities
- Improvement of health and hygiene conditions

# Conclusion

- Highly participatory decentralized approach
- Use of simple technology
- Simple operation and maintenance
- Low investment (no electro-mechanical equipment with exception of lift pumps)
- Running costs 100% covered by CDA
- Effluent concentrations comply with Egyptian Standards



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شكرا لحسن استماعكم

**Vielen Dank für Ihre  
Aufmerksamkeit**

**Thank you for your  
attention**

**gtz** Partner für Perspektiven.  
Weltweit.

