

# Replication of QKAEMP Sanitation Model

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## Background

Sanitation is one of the main aspects of good health that is directly and indirectly linked to various water-borne and skin infection diseases. Out of the eight Millennium Development Goals (MDG), three are directly linked to sanitation. These are child mortality, combating diseases, and ensuring environmental sustainability. Within a broader context, even the first MDG – reducing extreme poverty – is linked to sanitation, as poor people usually spend an increasing share of their meager income on medical expenses of their family, due to water and sanitation related diseases. This is primarily due to ignorance and lack of awareness that the suffering of the poor is enhanced and therefore, the 'Millennium Declaration' uses sanitation as an indicator of improving the lives of the poor.

Although much has been achieved in the present decade, the sanitation picture is still dismal in Asia. Only 39% of the population in South Asia and 48% in East Asia and the Pacific, have adequate sanitation facilities. The practice of open defecation by majority of people in the region is a serious threat to the environment and to the control of disease. Resource allocation for sanitation in many Asian countries tilts towards urban areas and to the rich. Consequently, it is the most vulnerable and marginalized population in urban and rural areas that suffer from minimal access to sanitation facilities. Moreover, the experience of the last two decades has shown that conventional sanitation programs have not brought about the desired improvements.



Prevailing situation in Katchi Abadies with sewerage water overflowing prior to intervention of QKAEMP

Despite this bleak outlook, shining examples of excellence do exist. For example, a number of communities in the region have achieved total sanitation (every household having access to a hygienic latrine). However, these successes have usually been on a small scale, and their large-scale replication needs careful consideration. The

challenge is to identify the determinants of success from these small-scale programs, and scale those up to national level with necessary adaptations. To achieve this, new institutional, technical and financial approaches may be needed.

In Pakistan the rate of sanitation coverage has been extremely slow. The difference in coverage of sanitary latrines is pronounced in urban and rural areas of the country. The urban coverage is 92% as against 42% in rural areas. The national average is 59% (as estimated for the year 2002). Projecting the expected coverage at the current rate (based on best fit equation), it will take about 24, 32, 41 and 49 years to increase sanitary latrines coverage to 70%, 80%, 90% and 100% respectively.

According to the provisional results of 1998 census, the number of households within municipal limits of Quetta was estimated to be 65,011 with a population of 488,223. Due to this rise, a sizable number of households reside in Katchi Abadies (unplanned settlements / slum dwellers). The number of such settlements is rising.

Perhaps the most important of all, is that the Government of Pakistan must realize the sanitation problem linking it with health i.e. sanitation related ailments, and make a political and social commitment to resolving it for the overall benefit of the people. The government at least owe this much to them.

## History of Intervention

The Quetta Katchi Abadies Environmental Management Programme (QKAEMP) evolved through a well organized process that began in 1996-97. Pakistan Institute for Environment Development Action Research (PIEDAR) with Mr. Syed Ayub Qutub, Executive Director and The Royal Netherlands Embassy (RNE) studied various approaches through which low cost sanitation was facilitated in Katchi Abadies. Two approaches were found vital during this process. An exploratory and gradually evolving approach of low cost sanitation in which the Orangi Pilot Project (OPP), Karachi and Youth Commission for Human Rights (YCHR) extended service of technical, managerial and social support to Katchi Abadies where the communities were willing to bear the entire cost of lane sewers and pour flush latrines without any direct subsidy. Another approach that was adopted in Punjab was structured on the principal of matching grant extended to low-income communities. PIEDAR with the approval of RNE decided to apply the latter approach with suitable modifications.

The adoption of this approach envisaged a project design that stipulated specific targets in physical and institutional respects. The programme design also laid down contractual

framework for all participating stakeholders. Stipulations in the project document governed such issues as the inclusion of Implementing Partners or Beneficiaries. The flow of funds, budgeting allocations, staffing, management coordination and project communication channels. The programme design clearly envisaged a massive input towards social mobilization in the targeted communities. The community sensitisation aimed through the social teams of the Implementing Partners (IPs) was meant to create awareness on health and Hygiene issues in relation to low cost sanitation. Studies undertaken during the inception phases led to several preliminary benchmarks outlined as follows:-

- The overall environmental conditions in the Katchi Abadies were dismal and continuously degrading
- The attempts by the municipal institutions were extremely limited, disjointed and continuously degrading
- The affected communities, with few exceptions, had very little understanding about the linkage of poor hygiene conditions with sanitation
- Community attitudes displayed general apathy towards self improvements – making a ripe case for catalytical intervention
- The planned intervention could only serve as a very limited scale example to be viewed by local stakeholders to build upon in the future

## Objectives of QKAEMP

The main objectives of QKAEMP was to develop a model of partnership between the Local Government, Local Area Committees (now Union Councils) and Lane Organizations for environmental management with the aim to improve the health and economic conditions of the residents of low income areas.

The implementation mechanism of the programme was through a network of five mid level NGOs, and the Urban Basic Services Cell (UBS) of the City District Government, Quetta as under:-

- Environment Foundation Balochistan (EFB)  
(Mr. M.A. Gondal, Executive Director)
- Society Environmental Awareness (SEA)  
(Major K. Safi Wasiuddin (Retd) Executive Director)
- Participatory Integrated Development Society (PIDS)  
(Mr. Babar Shah Khan, Chief Executive Officer)
- Urban Basic services Cell (City District Government)  
UBS Cell-CDGQ  
(Mr. Ghulam Qadir Lehri, Co-ordinator)
- National Welfare Society (NWS)  
(Mr. Pervez Ahmed Khan, President)
- Pak Public Development Society (PPDS)  
(Mr. Habibullah Bangulzai, Chairman)

PIEDAR, a national NGO based in Islamabad (Technical Advisor of QKAEMP) and Ferguson Associates, a Management Consulting firm based in Karachi (Fund Manager of QKAEMP) hired by the Royal Netherlands Embassy, were two prominent actors from the private sector who gave overall professional advice to the Six Implementing Partners for the smooth management of the programme.

While PIEDAR looked after the technical aspect of the project, Ferguson Associates dealt with the management of project funds and helped the Implementing Partners manage their accountancy and book keeping.



Community meeting in one of the Katchi Abadies in which a Community Participatory Agreement is being signed

## Essential features of QKAEMP

The construction of Low Cost Sanitation at the lane / street level was based on 50% contribution by the target community and 50% by The Royal Netherlands Embassy as matching grant. In addition to this the community also had to contribute 20% for Pour Flush Latrine items namely, WC –1, P-Trap-1, PVC Pipe (4in. dia) 6ft. length, Ventilation Pipe (2in.dia) 10ft. length, Tee-1 (4in. dia) Cement 1 bag (50 k.g.); and 80% contributed by RNE. The good point to note was that the RNE had fixed no limit to the matching grant in which any number (length) of running feet of sewerage line constructed was matched by 50% of equal amount required for the construction of sewerage lines.

The Implementing Partners (IPs) acted as implementers of the project and identified a Katchi Abadi or a group of Katchi Abadies with the guidance of the Technical Advisor. They were given output targets of "X" Running Feet (RFT) construction of sewerage lines as a means of meeting programme objectives. As per programme design Katchi Abadies were divided between the participating IPs. With sporadic exceptions, in none of the allocated KA or part of KA, has the IP been found to have undertaken any development work in the past. Similarly at lane level, existing power positions have been developed as Lane Organizations (LO). Community participation was achieved through lane resident's involvement in construction of Low Cost Sanitation through the LO designate and its allied Women Lane Organization (WLO). The standard QKAEMP team in an IP included a Team Leader, an Engineer, a Male Social Organizer, a Female Social Organizer and an Accountant.

## Step by step implementation process of QKAEMP

The process followed by each Implementing Partner in construction of sewerage lines is as follows:-

- Visit to target area for selection of sewerage line

The Team Leader, Social Organizer and Engineer visit the lane / street to see the condition of the existing sewer line and note down the following:-

- Existing sewerage system is covered / uncovered
- Gradient of the lane
- Disposal point of the sewerage water
- Length of the sewerage line in terms of running feet
- Number of houses in the lane and the number of family members living in each house
- Approximate number of people (beneficiaries) living in the lane
- Names of community activists / influential persons / elders residing in the lane
- Major problems and priority needs of the lane dwellers
- During this visit the Team Leader, Social Organizer and Engineer also meet some important influential persons of the lane and explain the purpose of their visit

- Community Meeting

The first visit to the target area is meant to establish a link with the community and obtain some vital information about the state of the existing sewer lines as well as gauge the response of the community, if they want to get their sewer lines covered on 50% cost basis. If their response is positive the next step is the holding of a Community Meeting in which the heads of all the houses of that lane attend. In this meeting the detail modalities of QKAEMP and the construction work along with the package of Health and Hygiene Training, Operation and Maintenance Training, domestic Solid Waste disposal training for womenfolk and, formation of a Lane Organization (Male Lane Organization and Women Lane Organization) at the lane / street (grassroots) level is explained to the participants and queries answered till a consensus is developed. At times a number of such meetings is arranged till everyone agrees to the construction work.

- Formation of Lane Organization

When all the modalities of sewerage line construction work is finalized in the final community meeting following steps are taken:-

- Community participants are asked to select / nominate three members to form a Male Lane Organization comprising the following:-
  - ❖ Lane Manager
  - ❖ Lane Organizer
  - ❖ Lane Accountant

Similarly at a later stage the Female Social Organizer also arrange a meeting of all the womenfolk of the lane and forms a Women Lane Organization comprising the same number of members with the same designations

- Signing of Community Participatory Agreement

- Once the MLO is formed their members sign a 'Community Participatory Agreement (CPA), in the presence of all the community participants and representatives of the NGO Project Staff
- The Engineer then carries out a detailed engineering survey of the sewerage line to be constructed and a detail cost estimation is given to the MLO
- The MLO collect contributions from the heads of all the households according to the estimated cost and share of each household
- After the contributions is collected the Lane Accountant opens a Bank Account in a Bank of their own choosing and deposit the amount collected
- Once the amount is deposited in the bank the Lane Manager informs the Team Leader that the entire amount mentioned in the estimate has been deposited in the bank
- The Team Leader or Project Accountant inform PIEDAR and the Fund Manager, who then release 50% matching grant through Cheque directly in the name of the Lane Organization

- Procurement of Construction Material

The Team Leader, Social Organizer (Male) and the Engineer accompanied by a member of the Lane Organization arrange the purchase of construction material from various vendors and get the same transported to the site of construction two or three days prior to the date of commencement of construction work. During this process the Engineer also arrange the hiring of masons, labourers etc.

- Local Area Workshop

- A Local Area Workshop is organized two or three days prior to the commencement of construction work. It is arranged in the same lane / street where construction work is to take place, in which all members residing in that lane including women usually attend. The main purpose of holding a Local Area Workshop is to aware and sensitise the community concerning the construction work, the method involved, the role of the community and the training to be imparted to the womenfolk on Health & Hygiene, Operation & Maintenance of sewer lines, disposal of domestic Solid Waste etc. In the Workshop the Team Leader, Social Organizer, Engineer, representatives of the Lane Organization and any particular individual from the community – Councillor / Nazim / Naib Nazim also address the audience

- Construction of Sewerage Line

- On the fixed date the construction work of sewerage line is started personally supervised by the Project Engineer, Social Organizer and, members of the Lane Organization



A Local Area Workshop is being held in a Katchi Abadi prior to commencement of sewerage line construction work

- During the construction work the Female Social Organizer get all the Womenfolk collected in one of the houses where she imparts training on Health & Hygiene, Operation & Maintenance, disposal of domestic Solid Waste to aware the womenfolk and build their capacity to manage the sewerage line after the completion of the construction work so that it could be maintained properly
- While the construction work is in progress the Social Organizer and Project Engineer also distribute Pour Flush Latrine items to each household as per list provided, who are given a date by which to install the same
- On completion of the sewerage line construction work a completion certificate is obtained from the Lane Organization and a Handing / Taking over Certificate signed between the NGO and the LO



Female Social Organizer is conducting a Health & Hygiene training session for womenfolk

### **Role of PIEDAR Sub-Office Quetta**

To facilitate the management and monitoring of the project, PIEDAR Islamabad opened a Sub-office at Quetta with the aim to provide support to the Implementing Partners so that they could abide by the stipulations of the project. A Training Organizer



The presence of large number of women in Local Area Workshop is a healthy sign for gender balance and women empowerment at the grass roots level

(male) and an Anthropologist (female) was hired to oversee almost all aspects of the project including selection of Katchi Abadies and target lanes. PIEDAR (Technical Advisor) Islamabad office undertook the checking of cost estimates and designs submitted by the Implementing Partners for approval. The Islamabad based Technical Advisor paid regular visits to check the various stages of work on the site and gave advice and instructions whenever required. In concurrence, the Technical Advisor – Quetta acted as a strong monitor of QKAEMP and promptly reported the progress and happenings to Islamabad. They also frequently inter-acted with the six Implementing Partners concerning all matters of the project.

### **Training**

This was an important ingredient of the project at all levels for human resource development and continuing process of education, especially for community level partners. (Lane Organizations and Women Lane Organizations), so that they could become increasingly proactive, productive and empowered for their work. PIEDAR Islamabad also conducted various training activities for the staff of Implementing Partners – Team Leaders, Social Organizers, and Engineers; whereas the Fund Manager did the same for Project Accountants. This has built the capacity of the project staff to a sufficient degree in technical work of sanitation, social mobilization, account keeping and, general managerial skills who are now indispensable assets available to perform in future projects of similar nature.

## Achievements of the Project

- The programme provided an excellent learning opportunity for six local NGOs (Implementing Partners) to gain valuable experience in low cost sanitation
- QKAEMP was able to function according to the programme guidelines. This could become possible due to stringent management controls
- A fine example of six local NGOs working together as a consortium under the technical guidance of a national NGO – PIEDAR and Private financial firm – Ferguson Associates as Fund Manager, with funding provided by The Royal Netherlands Embassy has been a good workable solution to large scale complex programme, a paradigm of which may not be found anywhere in Pakistan.
- A total of more than 160,000 running feet of sewerage lines has been constructed in different Katchi Abadies by the Implementing Partners in which quality of construction work was accorded top priority
- On completion of the project on 30 November 2003 The general environmental conditions of about 44 neighbourhoods or sub districts within the Katchi Abadies of Quetta has improved considerably, especially in those lanes / streets where sewerage lines has been constructed
- QKAEMP also successfully managed to establish Lane Organization (Male Lane Organization and Women Lane Organization) at the lane / street level, a big achievement that can sustain the sewerage lines constructed through maintenance by the lane dwellers under the managerial guidance of the Lane Organizations.
- The lane dwellers particularly the women and children are more aware and sensitised on issues of better health & hygiene, proper sanitation, disposal of domestic solid waste, maintaining clean surroundings free of solid waste dumps, overflowing sewerage etc.



9 inch pipes being laid to cover the open drain in one of the lanes in a Katchi Abadi

- Poverty alleviation of the lane dwellers have been achieved to some extent of those lanes where sewerage lines have been constructed, since they are now spending less on medicines and visits to the hospital. The children are also being made to wash their hands frequently after defecation and before eating meals. The concerned families can now spend their money on better items of use which has improved their living standards



Construction work of laying a sewerage line in progress in one of the Katchi Abadies of Quetta

## Recommendations

- Replication of QKAEMP

QKAEMP has provided a good proven and tested model for **REPLICATION** in Balochistan and other Provinces of Pakistan, which the Provincial Governments should take this opportunity of including the same model and apply it with suitable modifications in their own development schemes involving low cost sanitation; either from their own budget, or through Donor – Government funded programmes.

- Application of QKAEMP in QWSEIP

In Quetta (Balochistan) the timing for the end of QKAEMP on 30 November 2003 and the five years project – Quetta Water Supply Environmental Improvement Programme (QWSEIP), with an approved allocation by ECNEC amounting to Rs.8 billion which also includes a sanitation component is expected to commence soon that will cover the whole of Quetta City; has provided the Government of Balochistan an excellent opportunity to utilize the

services of the NGO sector through Public – Private collaboration, particularly the six local NGOs, who have worked in QKAEMP and, have the capacity and technical expertise to undertake the component of low cost sanitation and deliver the results successfully. Additional NGOs if required to fulfil any shortfall may be inducted subsequently. This approach will be far better than getting the work done through ‘**CONTRACTORS**’ that will not produce the desired results and quality of work, besides being more costly and waste of financial resources.

It will be unfortunate if the Government of Balochistan does not include the NGOs for revamping the sanitation of entire Quetta City by following the QKAEMP model

- Various National / International Donor Agencies should come forward to undertake the work on low cost sanitation by **replicating** the QKAEMP model. For this purpose the concerned Donor Agencies should approach the six local NGOs (not vice versa) who have developed adequate experience, skill and competency to carryout the construction of sewerage lines and have the requisite rapport and inter-action with the communities of their respective target areas
- Incorporation of QKAEMP Model in National Sanitation Policy

The QKAEMP model should also be considered a ‘fit case’ for incorporation in the National Sanitation Policy with suitable modifications depending on the geographical and topographical requirements of each Province / Region. The policy is presently being formulated at the highest national level.



Masons and labourers are carrying out construction of sewerage line. The Engineer and Social Organizer (in the background) are supervising the work

- ‘Experts / professionals in ‘Low Cost Sanitation’ should be invited to visit QKAEMP in order to extrapolate experience for replicability
- The Print and Electronic **MEDIA** should be invited to communicate QKAEMP experience to a wider audience with the aim to publicize the QKAEMP model, so that it could be replicated elsewhere with suitable modifications
- In order to make the QKAEMP model more broad based and multi-purpose following additional aspects should be incorporated in any future sanitation project in the form of awareness raising, trainings or capacity building of the target beneficiaries

The formation of Lane Organization at the lane / street level is a good idea. Particularly, the **Women Lane Organization** will enhance the empowerment of women to a great extent in which they will be able to play an effective role in promoting health & hygiene education, operation & maintenance of sewerage lines, proper disposal of domestic waste, develop the habit of frequent hand washing in their children and other related good environmental practices. Their poverty will also reduce by having to spend less money on medicines and thus generate some saving for better items of use

### Conclusion

It has been seen that the most common public sector approach in sanitation is that adopted by concerned government agencies through private contractors. In contrast, the self-help approach, adopted by communities on their own, promotes a sense of ownership in construction as well as operation and maintenance by the people themselves. For a long time, various governments in Pakistan has seen squatter settlements or Katchi Abadies as a problem that had to be eradicated; they are viewed as physical manifestations of social ills. Seeing squatter settlements as part of the solution rather than as part of the problem has led to the approach that is now popularly known as self-help. The self-help approach uses locally available resources including management support, labour and cost. The government and self-help approaches are often incompatible, and present, different political, managerial and financial challenges. However, in the case of QKAEMP that is a quasi self-help approach was not perceived as a threat to the City District Government Quetta (CDGQ). In fact the QKAEMP attempted to retain close contacts with the government and elicited support of elected representatives in their constituencies as and when required.



Ms. Lane Hoffman (Monitoring Mission) standing outside the office of a CBO Wahdat Guardian Organization, Marriabad

*This is a point to be noted that in any future project in which QKAEMP model is replicated by NGOs, there will be a strong element of close co-ordination, co-operation, linkage with the City District Government Quetta / Government of Balochistan with the desire to supplement the work of government agencies with a helping hand, in order to boost the development work in the overall interest of the beneficiaries who will ultimately benefit from the service being provided to them.*



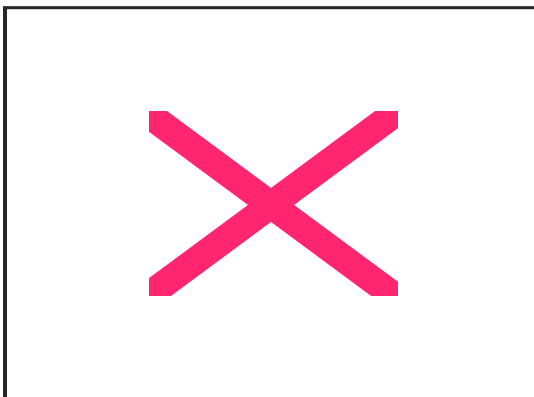
**Manhole covers reinforced with steel bars and G.I. sheet rings being constructed near the construction site**



**Masons are busy connecting P.V.C. pipes from a house to Tee Hodi in a lane at Hazara Town, Quetta**



**Mason constructing a manhole outside a house**



**Heads of all the Implementing Partners sitting along with the Chief Guest of Honour, Mr. Mohammad Rahim Kakar, Nazim, City District**



**Audience at the Closing Ceremony of QKAEMP held to mark the successful completion of the project**



**Mr. Syed Ayub Qutub, Executive Director, PIEDAR Islamabad (Technical Advisor of QKAEMP), the main pioneer, architect and designer of QKAEM Programme addressing the audience during the successful closing of the QKAEM Project**