Localizing Habitat Agenda Research Project

A CASE STUDY OF THE ORANGI PILOT PROJECT-RESEARCH AND TRAINING INSTITUTE, KARACHI, PAKISTAN

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By
Arif Hasan

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With assistance from Anwar Rashid, Israr A. Rana and Architects Parween Rehman, Salim Aleemuddin and Masooma Mohib

Arif Hasan & Associates, Architects and Planning Consultants
37-D, Muhammad Ali Society, Karachi – 75350 (Pakistan)
Tel/Fax: (92.21) 452 2361 E-mails: arifhasan@cyber.net.pk; ahasan@digicom.net.pk

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Abbreviations and Local Terms

Abbreviations

ADB	Asian Development Bank
ASB	Anjuman Samaji Behbood
ATDO	Appropriate Technology Development Organisation
BCCI	Bank of Commerce and Credit International
BES	Bright Education Society
CDN	Community Development Network
CHSP	Community Health Sciences Programme
CPLC	Citizens-Police Liaison Committee
CRC	Conservation and Rehabilitation Centre
CTA	Chief Technical Advisor
DAP	Department of Architecture and Planning
DCO	District Coordinating Officer
DG	Director General
DMC	District Municipal Committee
DIG	Deputy Inspector General
EDO	Executive District Officer
FAUP	Faisalabad Area Upgrading Project
FMC	Faisalabad Municipal Corporation
GFC	Ghaziabad Falahi Committee
GKSP	Greater Karachi Sewerage Plan
HDI	Human Development Index
IFIs	International Financial Institutions
IG	Inspector General
ISAL	Subdivision of Agricultural Land
KAD	Katchi Abadi Directorate
KAIRP	Katchi Abadi Improvement and Regularisation Programme
KAUP	Katchi Abadis Upgrading Programme
KBCA	Karachi Building Control Authority
KDA	Karachi Development Authority
KESC	Karachi Electricity Supply Corporation

KHASDA	Karachi Health and Social Development Association
KMC	Karachi Metropolitan Corporation
KMTP	Karachi Mass Transit Project
KPF	Khushal Pakistan Fund
KTC	Karachi Transport Corporation
KUDP	Karachi Urban Development Programme
KW&SB	Karachi Water & Sewage Board
KWWMP	Korangi Waste Water Management Programme
LCGO	Local (City) Government Ordinance
LPP	Lodhran Pilot Project
MD	Managing Director
MGD	million gallon per day
MNA	Member of National Assembly
MQM	Mohajir (refugee) Quami Movement
NESPAK	National Engineering Services Pakistan
NIPA	National Institute of Public Administration
NOC	No Objection Certificates
NWFP	North-West Frontier Province
OCT	Orangi Charitable Trust
O&M	operation and maintenance
OPP	Orangi Pilot Project
OWP	Orangi Welfare Project
PILER	Pakistan Institute of Labour Education and Research
PPAF	Pakistan Poverty Alleviation Fund
R&D	Research and Development
RTI	Research and Training Institute
SAP	South Asia Partnership
SBCO	Sindh Building Control Ordinance
SDC	Swiss Development Cooperation
SDM	Sub Divisional Magistrate
SKAA	Sindh Katchi Abadi Authority
SLGO	Sindh Local Government Ordinance
SPAs	Sub Project Areas
TBA	traditional birth attendant

TTRC	Technical Training and Resource Centre
TVO	Trust for Voluntary Organisations
UC	Union Council
UNCHS	United Nations Centre for Human Settlements
URC	Urban Resource Centre
WASA	Water and Sewage Agency
YCHR	Youth Commission for Human Rights
YTP	Youth Training Programme
ZMC	Zonal Municipal Council

Local Terms

anjumans	associations
bisi	unofficial community saving schemes
challans	demand notes
bhatta	illegal gratification
chowki	post
chowkidar	caretaker
dais	traditional birth attendants
dabboo	a board game
dallals	middlemen
gutter baghaicha	a sewage farm
kabaris	collectors of clean waste
katcha	temporary
katchi abadis	squatter settlements
kundimen	municipal garbage collector
kutchra kundis	neighbourhood garbage dumps
maddrassah	religious school
misali illaqa	exemplary area
mohalla	neighbourhood
nazim	mayor
naib	deputy
nallas	natural drains
paan	betel leaf

pucca	permanent
Ramdhan	the Muslim month of fasting
tanzeem	organisation
tasla	a flat metal dish
tehsil	sub-districts
thalla	building component manufacturing yard
thallewalas	owners of building component manufacturing yards
thana	police station
zari	gold thread work on cloth

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A CASE STUDY OF THE ORANGI PILOT PROJECT-RESEARCH AND TRAINING INSTITUTE, KARACHI, PAKISTAN

1. INTRODUCTION[1]

Pakistan is a poor country. According to the UNDP Human Development Report 2002, its Human Development Index (HDI) rank is 138 out of 173 countries. Poverty is also increasing in Pakistan. In 1987-88 it was 17.6 per cent and in 1998-99 it was 36.2 per cent. According to the Human Poverty Index, 44 per cent of the population of the country is currently living below the poverty line. It has low literacy figures, bad governance and almost 60 per cent of its urban population lives in un-serviced or under-serviced informal settlements[2]. A number of government programmes, often supported by loans and advice from International Financial Institutions (IFIs) for improving social and physical conditions in these settlements have been initiated but none of them have been able to meet their objectives or to prevent the development of new informal settlements. Karachi is Pakistan's largest city and has a population of about 12 million. More than 50 per cent of the Karachi population lives in squatter settlements or *katchi abadis* as they are called, and the formal sector is able to meet no more than 30 per cent of the city's housing demand. Government programmes for *katchi abadi* regularisation and improvement, as in the rest of Pakistan, have had very little success in the past because of an absence of community participation, inappropriate engineering and planning standards, excessive costs coupled with shortage of funds, increasing dependence on foreign loans and the resulting culture of corruption and patronage[3].

Orangi Town is an administrative unit of Karachi. It has a population of 1.2 million of which 86 per cent lives in *katchi abadis*[4]. In 1980, the Orangi Pilot Project (OPP) was established as a result of an understanding between Agha Hasan Abidi, the Chairman of the Bank of Commerce and Credit International (BCCI) Foundation, a Pakistani charity, and Dr. Akhtar Hameed Khan, a renowned Pakistani social scientist. The purpose of the project was to develop models of community participation and local resource mobilisation that could overcome the problems government programmes face in upgrading poor settlements and in poverty alleviation. Dr. Khan identified four main issues that needed to be tackled in Orangi and developed models around them. These issues were sanitation, health, education and employment. In 1988 the project was upgraded into four independent institutions: the OPP-Research and Training Institute (OPP-RTI) which deals with sanitation, housing, education, research, documentation and advocacy; the Orangi Charitable Trust (OCT) that operates a micro-credit programme;

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1. This study has been put together as a result of a number of interviews carried out by the author and his assistants. In addition, a large volume of literature has also been consulted. A list of persons interviewed and literature consulted. See Appendix 1: Sources used for the preparation of this study.
2. For details and references, see Item 2.1 of this study.
3. For details and references, see Item 2.2 of this study.
4. For details and references, see Item 2.4 of this study.

Karachi Health and Social Development Association (KHASDA) which runs a health programme in Orangi; and the OPP Society which channelises BCCI Foundation (now known as Infaq Foundation) to these organisations. **This case study deals with the work of the OPP-RTI.**

Dr. Khan had definite views on development and the organizational culture that should accompany it. These were based on his experience of various projects he had initiated. These views have shaped the culture and methodology of the OPP-RTI and the other institutions he has created. They are the strengths of the OPP-RTI, and according to some, they are also its weaknesses. These are discussed in Section 3 (Stakeholders) of this case study.

The OPP-RTI considers itself a research institution whose objective is to analyse outstanding problems of Orangi, and then through action research and extension education, discover viable solutions. These solutions can then be applied, with modifications, where necessary, to other settlements and become part of state policies. The OPP-RTI does not fund development but by providing social and technical guidance it encourages the mobilisation of local resources and the practice of co-operative action. Based on these principles, the OPP-RTI has evolved a number of programmes (reaching out to over four million people), some of which are described below.

The Low Cost Sanitation Programme: This programme enables low income families to construct and maintain an underground sewage system with their own funds and under their own management. For this programme, the OPP-RTI provides social and technical guidance (based on action research), tools and supervision of implementation to lane and neighbourhood organisations whom it fosters. The OPP-RTI's work has shown that people can finance and build underground sanitation in their homes, their lanes and neighbourhoods. This development is called "internal" development by the OPP-RTI. However, people cannot build "external" development consisting of trunk sewers, treatment plants and long secondary sewers. This only the state can provide. Internal development is 70 per cent of the total cost of the sewage system and external development is 30 per cent. In Orangi, people have invested Rs 86.28 million (US$ 1.438 million) on building 6,251 lane sewers, 417 secondary sewers and 93,995 latrines in their homes[5]. Government's investment in external development is ongoing and is the result of OPP-RTI's low cost designs and lobbying for their implementation through the community organisations that have been created. If the state had done the work that the people have done, it would have cost Rs 604 million (US$ 10.06 million). The OPP-RTI has lowered costs as a result of technical research which has modified engineering standards and made them compatible with the economics and sociology of low income groups and with the concept of community participation. These standards have been adopted by local government, NGOs and Pakistan projects funded by international development agencies such as DFID. For every one rupee that the OPP-RTI has invested in capital costs, research, extension and administration of the sanitation programme, the people of Orangi have invested seventeen rupees.

The programme is being replicated in 160 Karachi settlements through government agencies, NGOs and CBOs. It is also being replicated in ten cities of Pakistan through CBOs who are pressurising government development agencies to accept the OPP-RTI model for "external development". Some agencies have already accepted the model. Replication in the villages of Punjab has also started. In addition, the "internal-external" model, now called the Component Sharing Model is also being applied by government and NGOs for rural water supply where communities invest in village level infrastructure and government develops the water source[6].

5. OPP-RTI, 92nd Quarterly Progress Report, September 2002.
6. Ibid.

According to the Component Sharing Model, the people and the government agencies work together as partners for the development of an area or community. The internal development is financed, managed and maintained by the people while the external developments are taken care of by the government organisation under close supervision and interaction with the OPP-RTI or its CBO/NGO partner organisation. The OPP-RTI is consultant to all these initiatives and is responsible for training NGO activists, government engineers and administrators and local communities who are implementing these schemes. Training is also provided to local technicians from other cities and settlements at the OPP-RTI where the trainees live in the OPP-RTI hostel in Orangi and interact with local technicians and communities. In the process many of these technicians not only upgrade their skills but also become excellent social organisers.

The OPP replication model has evolved over time as a result of trial and error and after many failures and modifications to it. Today, the OPP-RTI is increasingly getting involved in policy issues and promoting macro-level solutions, based on its models on sanitation, housing and economic issues. This has led the OPP-RTI to document 222 *katchi abadis* in Karachi along with physical and economic proposals for upgrading the natural drainage channels (or *nallas* as they called) of Karachi through which most of city's sewage flows[7]. This is the only documentation of informal settlements that exists. Recently, 20 young people underwent a 90-day training for survey, documentation, designing and estimation of existing and or proposed infrastructure in low income settlements. Training of additional young persons continues who after their training become, not only an asset to the community to which they belong, but also a part of a larger movement to create self-reliance, freedom from foreign loans and grandiose projects and a more equitable relationship between low income communities and government agencies and their plans. The OPP-RTI documentation and its model, when applied to Karachi reduced the cost of the Asian Development Bank (ADB) funded Greater Karachi Sewage Plan for the Korangi sector of the city to less than one-third of its original cost. This led to community pressure on the Governor of Sindh to cancel a US$ 100 million loan from the ADB for the Korangi Sewage Project and the OPP-RTI model was accepted.

As a result of OPP-RTI's sanitation programme, tens of thousands of dirty lanes, not only in Orangi but in many Pakistani towns, have become clean and have been converted into spaces for community interaction and playgrounds for children. The organisations that have built their sanitation systems have moved on to develop solid waste management, tree plantations, schools and health programmes. More recently these organisations have applied the "component sharing model" to acquiring electricity from state agencies and developing security systems in an increasing law-and-order-problem ridden city.

The OPP-RTI programme is also being replicated in Central Asia, Nepal and in certain settlements in South Africa with OPP-RTI advice and training.

The OPP-RTI's Low Cost Housing Programme: The OPP-RTI carried out a study on the "sociology, technology and economics" of housing in Orangi. This study clearly identified that the local building component manufacturing yards (or *thallas* as they called) are crucial to housing in Orangi since they act as architects, contractors and credit suppliers to low income house builders. As a result, the OPP-RTI has provided loans and technical assistance (based on research) to *thallas* in Orangi so that they can mechanise their production, improve their products, train their staff and increase their production. New and cheaper roofing elements have also been introduced. In addition, the programme also trains masons in using the new

7. Ibid.

technologies and components that are being developed at the *thallas*. Also, house builders are given advice on how to relate to the *thallas* and masons and also advice on design, light, ventilation and other hygiene related design aspects. To provide such advice, the OPP-RTI is in the process of training para-professionals who are mostly young unemployed youth from the Orangi communities. These para-architects are paid a fee by house builders or those who want improvement to their homes. The OPP-RTI's housing programme thus tries to create a more equitable relationship between the actors in housing drama, as a result of which housing has improved in Orangi.

So far, 57 *thallas* have been mechanised due to which employment has been generated and machine made blocks and roofing elements are being fabricated, not only for Orangi, but for the rest of Karachi as well[8]. In addition, 96 masons have been trained and 3 para-architects after a training of 2 years at the OPP-RTI have established the Technical Training and Resource Centre (TTRC). The low cost housing activities including training, designing and documentation are now all being undertaken by the TTRC with a little back up support by the OPP-RTI. Research for new methods and techniques is still carried out by the OPP-RTI. Another group of seven para-architects are being trained. Approximately, 4,000 buildings per year benefit from OPP-RTI's technical research and extension[9].

OPP-RTI's Education Programme: This programme through social and technical guidance improves and upgrades the physical conditions and academic standards of private schools in Orangi of which there are 782[10]. These private schools cater to the needs of the vast majority of Orangi school going children. Physical improvements are made with loans from Orangi Charitable Trust (a sister organisation of the OPP-RTI) and advice from OPP-RTI. Academic improvements are made by arranging teacher's training through existing relevant organisations; provisions of books and audio-visual aids for libraries and publication of manuals and guide books for teachers.

Financial support is extended during three stages of the establishment of these schools. One, a small start up grant of Rs 3,000 (US$ 50) to Rs 12,000 (US$ 200) is given for the setting up of the schools in people's homes. Two, within a year the school is institutionalised and needs funds for physical expansion. At this stage, an interest free loan of Rs 20,000 (US$ 333.33) to Rs 30,000 (US$ 500) is given. This support is important for the survival of the school. And three, a loan with interest of Rs 50,000 (US$ 833.33) is made available to improve the schools from an informal to a formal educational institution[11].

OPP-RTI has provided 393 loans to such schools[12]. Teacher's training through Allama Iqbal Open University is also being coordinated. The education entrepreneurs also hold their monthly meetings at the OPP office, where they share information on registration and teaching methods.

CBO-NGO Programme: The OPP-RTI in association with the Urban Resource Centre (URC), a Karachi NGO working on urban issues, operates a CBO-NGO programme. The programme brings together various CBO and NGOs as a network where these organizations present their work to each other and thus learn from each other. These presentations also lead to the documentation of work and processes which would not otherwise be documented.

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8. Hasan, A., Working with Communities, City Press Karachi, 2001.
9. Ibid.
10. OPP-RTI, 92nd Quarterly Progress Report, September 2002.
11. Author's interview with Salma Mir, Coordinator of the OPP-RTI Education Programme, March 2003.
12. Ibid.

The OPP-RTI also arranges lectures at its office by prominent planners, sociologists, economists and educationalists for the Orangi residents. This interaction between professionals and low income communities benefits then both and these events are well attended. They have broadened the horizons of Orangi residents.

Research, Training and Documentation: OPP-RTI's research and documentation is a continuous affair and is published and disseminated through monographs, regular reports and books, both in English and in Urdu. They have had a major impact on how low income housing settlements are viewed by government agencies in Pakistan and they have also changed the perception of multilateral and bilateral donors regarding development issues of Third World countries.

Training and orientation has been provided by OPP-RTI to Pakistani NGOs and CBOs, UN organisations, World Bank, ADB, USAID, government agencies, groups from Central Asia, Nepal, South Africa, Vietnam, Cambodia, Japan, and numerous local and foreign academic institutions. Since 1992, 957 training groups consisting of 3,116 members have visited the OPP-RTI[13].

Youth training programmes are constantly organised at the OPP-RTI, as a response to a demand from the younger residents of Orangi and of the CBOs and NGOs from other areas. The purpose of the training is to enable young people to establish the Orangi models in their areas and/or to sustain them where they have already been established. Besides technical training an effort is being made to create youth resource centres for vocational training, and for promoting access to information regarding government programmes and projects for poverty alleviation.

The OPP-RTI research programmes and their documentation have provided NGOs, CBOs and government agencies with models for overcoming the physical, social and economic problems faced by low income settlements and communities. These have been tested through government-OPP-RTI-community participation projects.

OPP-RTI and Academic Institutions: Much of OPP-RTI's early research was supported by the Department of Architecture and Planning (DAP) at the Dawood College in Karachi. This was because architects working with the OPP-RTI were also visiting teachers at the Dawood College. Many projects of the architecture and planning course were linked to the Orangi situation. As a result, a large number of architecture and planning graduates who understood the problems of the informal settlements have been produced and are now important professionals and/or government officials. The Department of Sociology and of Social Work of Karachi University also has strong links with the OPP-RTI. The Dean and teachers of the DAP at the NED University in Karachi are all graduates of the Dawood College. OPP-RTI's principal consultant and staff lecture regularly at the National Institute of Public Administration where government officials are trained. This lecturing has won over many converts from the bureaucracy to the OPP-RTI concept.

Support to the Orangi Town Union Councils (UCs): With the enactment of the Devolution Plan 2001, Karachi has been divided into 18 towns and each town into a number of union councils. Orangi Town is one of the 18 towns and it has 13 union councils. The OPP-RTI has surveyed every union council and provided them with maps identifying the existing physical infrastructure

13. OPP-RTI, 92nd Quarterly Progress Report, September 2002.

(along with problems with it), social sector facilities and solid waste disposal problems. It also helps the union councils in determining how best they can utilise the grants for development that are made available to them. The OPP-RTI office also provides space for elected UC representatives and community groups to interact. Orientation programmes related to the OPP-RTI models for the UC representatives have also been arranged. As a result of this documentation, requests from other Karachi UCs and from other parts of Pakistan are being made for similar documentation.

Impact: Physical and social conditions in Orangi have improved as a result of the work of the OPP-RTI. Infant mortality and child mobility figures have declined. Expenditure on health has declined. Real estate prices have increased. Similar improvements are discernable at the replication projects. However, the OPP models have yet to become a part of government planning policy of the improvement of low income settlements. A strong lobby of engineering consultants and contractors (both national and international), development related bureaucrats and a number of public representatives, oppose the OPP models. OPP-RTI supporters in civil society in Pakistan also feel that there are weaknesses in the OPP-RTI itself that prevent the programme from becoming a part of government policy and implementation processes. However, many NGO, UN (GEF, LIFE and PLUS), World Bank and other donor programmes in Pakistan such as the DFID funded FAUP, have borrowed from the OPP-RTI model and as such are different from similar programmes in other countries. These impacts are discussed in Section 5 (Outcomes and Implications) of this case study.

Funding: The OPP-RTI's main funder has been the Infaq Foundation. The Foundation now feels that the OPP-RTI can stand on its own feet and is phasing out its support. Increasingly, the OPP-RTI has to depend on international NGOs for funding purposes and on fees from its training programmes. However, the OPP-RTI budget is only Rs 8.48 million (US$ 0.141 million)[14] a year which is not difficult to raise. In addition, the OPP-RTI has been able to build up considerable reserves over the last 22 years of its existence.

2. CONTEXT

2.1 Pakistan

Political Structure: Pakistan is a federation of four provinces. Each province has an elected provincial assembly and at the centre there is a national assembly in which every province is represented in proportion to its population. In addition, there is a senate at the centre where each province is represented equally. Every province is divided into *zilas* or districts and districts are divided into rural and urban *tehsils* or sub-districts. The *tehsils* are further subdivided into union councils which are the lowest administrative unit. The average population of a UC varies between 50,000 to 70,000. The larger cities, which include the provincial capitals are run as city districts and subdivided into *tehsils* or towns and the towns into UCs. The *zilas*, *teshils*, and the UCs are headed by elected *nazims* and *naib nazims* (mayors and deputy mayors) who are elected indirectly by directly elected councillors. 33 per cent of councillor seats are reserved for women and 5 per cent for workers and peasants. There are 103 z*ila* governments in Pakistan, 335 *tehsil* councils and 6022 UCs.

According to the Devolution Plan enacted in 2001, all the three levels of local government have considerable autonomy and can raise funds and plan and implement physical and social developments independently. They are supported by a bureaucracy that is subservient to them.

[14]. Ibid.

The *zila nazim* is responsible for the district administration as a whole and is assisted by a senior bureaucrat who is the District Coordinating Officer (DCO) who coordinates the functioning of all government departments in the district. These departments are headed by District Officers and consist of District Coordination, Human Resource Management and Civil Defence, Finance and Planning, Works and Services, Agriculture, Health, Education (apart from universities), Literacy, Community Development, Information Technology, Revenue, Law and Magistracy. Before this devolution to the district level, all planning and implementation were controlled by the provincial government and its line departments. The system is still in a process of experimentation but it is a welcome departure from the previous top heavy bureaucracy controlled government structure. Details of local government and its election processes are given in charts in **Appendix – 2: Local Government Structure in Pakistan**.

Demography: Pakistan's population has increased from 28.244 million in 1941 (the census taken before Independence) to 130.580 million in the last census in 1998. In 1941, the urban population was 14.2 per cent and in 1998, it was 32.5 per cent of the total population. Critics of the 1998 Census points out that the urban population is much larger. The reasons they give for this is that the huge informal settlements in the peri-urban areas of the cities are very often not part of the metropolitan areas and are as such not considered urban. They also point out that the new definition of urban in Pakistan considers only those areas urban which have an urban governance system. As a result, a large number of settlements of over 5,000 population are denied an urban status in the Census[15].

In Pakistan election constituencies are determined on the basis of the last census result. Also, the Annual Development Plan allocations are made on the same basis. Share of the revenues of the divisible pool between the provinces are also determined on the basis of their population according to the last census. As such, census results are a highly political issue and usually controversial. Table 2.1 below summarises the demographic situation and its evolution since 1901.

Table - 2.1

Pakistan: Population Size, Rural – Urban Ratio and Growth Rate, 1901-1998

Year	Population (in '000)			Proportion		Annual Growth Rate		
	Total	Rural	Urban	Rural	Urban	Total	Rural	Urban
1901	16,577	14,958	1,619	90.2	9.8	-	-	-
1911	18,805	17,116	1,689	91.0	9.0	1.27	1.36	0.42
1921	20,243	18,184	2,058	89.8	10.2	0.74	0.61	2.00
1931	22,640	19,871	2,769	87.8	12.2	1.13	0.89	3.01
1941	28,244	24,229	4,015	85.8	14.2	2.24	2.00	3.79
1951	33,740	27,721	6,019	82.2	17.8	1.79	1.36	4.13
1961	42,880	33,240	9,640	77.5	22.5	2.43	1.80	4.84
1971	65,309	48,715	16,594	74.6	25.4	3.67	3.33	4.76
1981	84,253	61,270	23,583	71.7	28.3	3.10	2.58	4.38
1998	130,580	87,544	43,036	68.5	32.5	2.61	2.2	3.5

Source: Prepared from Population Census Reports, Government of Pakistan

It will be noticed from the table that urban growth between 1941 and 1981 was much higher than the national average. This was because of migration from India between 1947 and 1951;

[15]. Ali, R., How Urban is Pakistan, Economic and Political Weekly, Volume XXXVII, Nos. 4445, Delhi, 2002

the introduction of green revolution technologies in the 1950's and 60's which pushed small producers and landless labour out of the rural areas; and industrialisation in the 1960's and 70's which attracted migration from the rural areas[16]. Another factor that has an important bearing on poverty issues is that Pakistan has an extremely young population. There has not been a significant reduction in its growth between the intercensal periods of 1981 to 1998. This is illustrated in the Table 2.2 below.

Table – 2.2

Pakistan: Population Under 15 Years

Pakistan	Total		Rural		Urban	
Population below 15	Actual	Percent	Actual	Percent	Actual	Percent
1981	36,519,208	44.51	27,269,107	46.84	9,250,182	38.8
1998	56,064,747	43.4	38,851,441	45.06	17,213,306	40.08

Source: Prepared from Population Census Reports, Government of Pakistan

Poverty in Pakistan: As mentioned in the introduction, the Human Development Report 2000 of the UNDP, the Human Development Index (HDI) rank of Pakistan is 138 out of 173 countries. 31 per cent of the population lives below US$1 per day and 84.6 per cent below US$2 per day. National poverty line is 34 per cent. Life Expectancy at birth is 60 and adult literacy rate is 43.2 per cent[17]. Participation rate at university level is very low at three per cent[18]. Poverty incidence declined from 46.5 per cent in 1969-70 to 17.3 per cent in 1987-88 due to a higher growth and pro-poor government policies. In 2000, poverty incidence has increased to over 30 per cent. The population living below the poverty line is not able to achieve the minimum required level of calories. In addition, the employment rate has increased from 5 per cent in 1992 to 7.8 per cent in 2002. In income distribution terms, share of the lowest income 20 per cent households fell sharply while that of the highest 20 per cent increased[19]. Statistics of poverty related issues, including government investments in the social sector, debt and selected social indicators are given in **Appendix – 3: Poverty in Pakistan**.

Literacy in Pakistan is low. There is a major difference between rural (36.64 per cent) and urban (63.08 per cent) literacy. Female literacy in the rural areas is only 20.09 per cent as opposed to 55.16 per cent in the urban areas. However, literacy in the urban areas for both males and females in the age groups of 10 to 24 is over 70 per cent. The improvement in the urban areas is at a much quicker pace than the rural and this is increasing the rural-urban divide. Table 1 in **Appendix – 4: Socio-economic Data, Pakistan** illustrates these differences over time.

Another important indicator is related to the number of married women in the age group of 15 and 24. In the urban areas, married women in this age group are rapidly declining while in the rural areas the change is comparatively less. Coupled with literacy figures and the increasing use of television, this points towards the creation of a younger generation in the urban areas

16. Hasan, A et al., Urban Change: Scale and Underlying Census: The Case of Pakistan, unpublished study prepared for the IIED (UK), 2002.
17. UNDP, Human Development Report 2000, OUP, New York, 2002.
18. Call Poverty by any name: article in Daily Dawn, Karachi, December 2, 2002
19. Hasan, M.T., Governance and Poverty in Pakistan, Pakistan Institute of Development Economics, Islamabad, 2002.

which is very different from that of the rural areas. Tables 2 and Table 3 in Appendix - 4 illustrate these trends.

Physical Conditions: Physical conditions in the rural and urban areas of Pakistan are given in Table 2.3 below. They show major difference between the urban and rural areas and clearly demonstrate that sanitation, congestion at the house level, and water supply are the major issues in both the rural and urban areas.

Table - 2.3

Physical Conditions: Pakistan

PAKISTAN	Total		Rural		Urban	
PHYSICAL CONDITIONS	**1980**	**1998**	**1980**	**1998**	**1980**	**1998**
No. of Housing units	12,587,650	19,211,740	9,033,475	13,181,175	3,554,173	6,030,565
Rental Housing (%)	7.73	8.64	2.16	2.22	21.87	22.66
Owned Housing (%)	78.38	81.19	82.60	86.80	67.68	68.92
One Room Houses (%)	51.54	38.11	55.06	41.65	42.58	30.38
2-4 Room Houses (%)	10.78	15.97	9.63	14.54	13.68	19.11
Persons/ housing unit	6.7	6.8	6.6	6.8	7.0	7.0
Persons/ room	3.5	3.1	3.6	3.2	3.2	2.9
Electric Connections (%)	30.58	70.46	14.66	60.07	71.04	93.14
Piped Water in house (%)	12.62	28.08	2.53	13.37	38.26	60.22
Piped Water outside house (%)	7.72	4.18	2.88	3.89	20.04	4.81
Water: rest from hand pumps, ponds, canals etc. (%)	79.65	67.74	94.59	82.74	41.70	34.97
Separate Latrine	-	28.58	-	18.46	63.53	50.68
Shared Latrine with other housing unit	-	20.44	-	12.29	9.37	38.26
No Latrine	-	50.98	-	69.25	27.10	11.06
RCC roofs (%)	8.55	21.39	1.50	10.43	26.49	45.35

Source: Prepared from Housing Census Reports, Government of Pakistan

In the housing census of 1980 and 1998, no differentiation was made between planned areas and informal settlements. As such, an overall picture for the informal settlements, where most of the poor households live, is not available. However, Pakistan requires 857,000 housing units per year, 370,000 for the urban areas and 459,000 for the rural areas. The formal sector has not been able to fulfil even 20 per cent of this demand[20]. This demand-supply gap has been met to some extent by the creation of informal settlements. These settlements are of two kinds: *katchi abadis* on state land and the development of unserviced settlements through the Informal Subdivision of Agricultural Land (ISAL). As a result, informal housing units in the urban areas increased from 1.9 million in 1981 to 2.7 million in 1995 when 7 million population lived in *katchi abadis* and other 12 million in ISALs. The current figures for houses in informal settlements in the urban areas, at a modest estimate, would be in the neighbourhood of 3.5 million housing

[20]. Gurel. S et al., Housing Parameters, Dawood College-Aga Khan Program for Architecture, Karachi 1991.

24.5 million population[21]. This does not include poor populations living in the environmentally degraded neighbourhoods of the congested inner cities which have turned into high density slums. The wholesale markets and related cargo terminals are located in these inner cities and were once surrounded by middle and high-middle residential areas. With an increase of over 20 times in the urban population since 1941, these markets have expanded to engulf the entire inner cities turning their narrow lanes into warehousing, cargo terminals and male only day-wage labour accommodation. The infrastructure of these inner cities has collapsed and families have moved out. Pakistan's urban built heritage is located in these inner cities and has been devastated as a result of these changes[22].

Both the *katchi abadis* and the ISALs are created by middlemen and with the support of corrupt government officials. In the case of the *katchi abadis*, there is no security of tenure, unless they have been marked for regularisation. In the case of ISALs, there is security of tenure. However, both the settlements in their initial stages are without basic infrastructure. Water is acquired by hand pumps where subsoil water is potable, and from irrigation canals and tankers where it is brackish. Houses are built incrementally overtime with the assistance of small contractors who provide technical assistance and materials and sometimes credit at high interest rates. Communities form organisations to lobby with government agencies and politicians and manage to acquire water, roads and electricity through them or through self-help. Sewage and waste water disposal remain the major problem which people cannot solve and which governments fail to solve due to an absence of proper disposal systems. As a result, the environment in general, and water bodies in particular, are heavily polluted.

Both the *katchi abadis* and the ISALs are increasingly being built far away from the city centres and the place where their residents work. This is creating transport problems and extra expenditure for the commuting poor. It is also distancing them from better health and education facilities[23]. In percentage terms, *katchi abadis* are gradually decreasing as very little government land is left to be encroached upon. Meanwhile, the new ISALs have smaller plots (sometimes as small as 60 m2) and narrower lanes than the older ones. This is because the agricultural land is becoming more expensive and the buying power of the poor is decreasing[24].

Government Programmes for Poverty Alleviation: The most important programme of the government is the Katchi Abadi Improvement and Regularisation Programme (KAIRP). It has been in operation since 1978 and deals only with *katchi abadis* and not with the ISALs. The programme gives a 99-year lease to the residents of *katchi abadis* against a payment of lease and development charges. Large loans have been taken from the World Bank and (Asian Development Bank) ADB for the programme. However, the programme has not been successful in the past due to the absence of community participation, complicated procedures, high standards, lack of transparency and accountability and a deep seated mistrust between communities and local government organisations. Till the early 1990's, the programme was regularising one per cent *katchi abadis* per year which meant that the programme would be completed in a hundred years[25]. Meanwhile, new *katchi abadis* would be created. In the late

21. Hasan, A et al., Urban Change: Scale and Underlying Census: The Case of Pakistan, unpublished study prepared for the IIED (UK), 2002.
22. Hasan, A and Alimuddin S., Governance, Decentralisation and Poverty Eradication: The View from Orangi, unpublished report prepared for the South Asian Perspectives Network Association (SAPNA), Colombo, 2002.
23. Hasan, A and Sadiq A., Mapping City Inequality: A Case Study of Karachi, unpublished report prepared for the IIED (UK), 1994.
24. Hasan, A., Housing for the Poor, City Press Karachi, 2001.
25. ADB, Report on the Pakistan Low Cost Housing Project, 1989.

90's, the Sindh Katchi Abadi Authority (SKAA) was able to develop a model of *katchi abadi* upgrading based on the OPP-RTI methodology. The model is comparatively more successful and attempts at its replication by other government agencies implementing KAIRP are being made.

In addition to KAIRP, the government of Pakistan in the past five years has initiated two important poverty alleviation funds. One is the Pakistan Poverty Alleviation Fund (PPAF) and the other is the Khushal Pakistan Fund (KPF). The PPAF gives credit to NGOs and CBOs for their micro credit programmes. In addition, it gives grants for community level infrastructure projects both in the rural and urban areas. The KPF provides grants to local governments at the *zila*, *tehsil* and UC level for infrastructure projects. In addition, the government has established the Khushali Bank which provides loans for micro credit (without collateral) and has an endowment which funds, through grants, NGO development projects and supports NGOs in meeting their overheads and research and extension activities.

Grants provided by these funds for sewage and waste water disposal have a number of problems associated with them. One, that disposal for these projects is not available except at depressions or natural water bodies. Two, that technical expertise at the UC level and with NGOs and CBOs accessing these funds is not available.

2.2 Karachi

Administrative Structure: Before the enactment of the Devolution Plan 2001, Karachi was divided into five districts. Each had a district council. The Karachi Metropolitan Corporation (KMC) was the parent body of these district councils. However, the KMC was in-charge of the operation, maintenance and management of water supply, drainage, sewage, roads, solid waste management, street lightings, road signs and the development of parks, recreation areas and social welfare institutions. It was also in-charge of KAIRP through its Katchi Abadi Directorate (KAD). It gave grant-in-aid aids to its elected councillors to undertake emergency level development and maintenance works. Development planning and implementation (physical, social and economic) was carried out by agencies under the control of the provincial government. Sewage and water were taken care of by the Karachi Water & Sewage Board (KW&SB) (in the public sector) and electricity by the Karachi Electricity Supply Corporation (KESC) (a public sector company).

As a result of the enactment (under Devolution Plan 2001) of the Local (City) Government Ordinance (LCGO) 2001, Karachi is now a district headed by a *nazim* and *naib nazim*. The district is divided into 18 towns and the towns are further divided in 178 UCs. Each town and UC has its own *nazims* and *naib nazims*. The composition of the house or representatives of the city government is given below.

-	*Nazims* of union councils	178
-	33 per cent women seats	059
-	5 per cent workers and peasants	009
-	5 per cent minorities	009

	Total House	225

Elections to the *nazims* and *naib nazims* are through the elected councillors and as such indirect. Prominent citizens belonging to civil society normally do not wish to contest indirect elections since they have to rely on the vote of already elected councillors who in the past has

often been manipulated by political parties and government in power. Thus, the indirect elections deprive Karachi of being represented by its more prominent and respected citizens.

After the enactment of the Ordinance, the development and operation and maintenance (O&M) related agencies which were under the provincial government have been dissolved and have become a part of the city government set-up. Primary education, basic health and transport have also become city government functions. Thus, all planning, implementation and O&M have been centralised with the city government, or allocated to the towns and UCs who, in the Ordinance have similar functions to the city government. The police however, remain with the provincial government for political reasons.

Setting up offices and deputing manpower for planning, operation and maintenance of social and physical infrastructure for 18 towns and 178 UCs is a difficult, if not an impossible, proposition. It will take time and dedication. However, if it can be achieved it will certainly lead to considerable improvements at least for issues that can be dealt with at the UC level.

In spite of the LCGO 2001, there is a strong presence of federal government institutions in Karachi. These institutions include the Karachi Port Trust, Military Land and Cantonment Boards, Pakistan Railways, Pakistan Steel Mills, Port Qasim Authority and the Civil Aviation Authority. Critics of the Devolution Plan point out that for Karachi there is no real devolution unless the plans and implementation processes of these powerful federal agencies are made subservient to city government concentrations.

Karachi's Economy and its Position in Pakistan: Karachi is Pakistan's only port city. It contains 10 per cent of the total population of Pakistan and 25 per cent of its urban population. It is the capital of the Sindh province and contains 30 per cent of the province's population and 63 per cent of the province's urban population. In addition, 20 per cent of the country's GDP, 45 per cent of value added, 40 per cent of employment in large scale manufacturing, 50 per cent bank deposits, 20 per cent of federal and 40 per cent of provincial revenues and 62 per cent of income tax is contributed by Karachi[26]. The city has 4,500 industrial units in the formal sector. The major industries are textile, leather, paper, marble, ceramics, rubber, plastic, glass, iron, electronics, pharmaceuticals, food products, agricultural and dairy products and stationery. Many of these industries are export-oriented. There are no estimates available for the informal sector. However, 75 per cent of the working population is employed in the informal sector which works out of low income settlements mainly in the garment, leather, textile, carpet and light engineering sectors[27]. In recent years, a link between formal and informal sectors has been established with the formal sector sub-contracting work to informal establishments. The growing importance of the city in the national economy is reflected by the increase of cargo handle by the Karachi Port Trust which was 2.8 million tonnes in 1951 and 23.74 million tonnes in 1991[28].

Demography: The demographic changes that have taken place in Karachi since Independence are given in Table 2.4 below and illustrated in Maps in **Appendix 5: Maps Showing Post-Independence Growth of Karachi**.

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[26]. Beg, M.A., Urbanization and Its Environmental Repercussions, unpublished paper prepared for under-preparation IUCN Sindh Environmental Profile, 2003.

[27]. MP&ECD KDA, Karachi Development Plan 2000, KDA, Karachi, 1990.

[28]. Hasan, A., Understanding Karachi, City Press Karachi, 1999.

Table 2.4

Karachi Population Growth

Year	Population	Increase/Decrease Over Last Census / Survey	No. of Years in Between	Per cent Increase/ Decrease	Average Annual Growth Rate
1941	435,887	135,108	10	44.90	3.70
1951	1,137,667	701,780	10	161.00	11.50
1961	2,044,044	906,377	10	79.70	6.05
1972	3,606,746	1,562,702	11	76.50	5.00
1981	5,437,984	1,831,238	9	50.80	4.96
1998	9,802,134	4,540,422	17	86.29	3.52

Source: Prepared from Population Census Reports, Government of Pakistan.

The table shows an increase in population of 11.5 per cent between 1941 and 1951. This was due to migration from India as a result of the partition of the British Empire in 1947. The demography of Karachi completely changed as a result. The extent of the change is reflected in Table 2.5 below.

Table – 2.5

Demographic change due to Partition

	1941	1951
Population	450,000	1,137,000
Sindhi spoken as mother tongue (percent)	61.2	8.6
Urdu spoken as mother tongue (per cent)	6.3	50
Hindu population (per cent)	51	2
Muslim population (per cent)	42	96

Source: Prepared from Population Census Reports, Government of Pakistan

However, since 1951 the rate of growth has declined to 3.52 per cent per year between 1981 and 1998. Other changes in the demography and social indicators have also taken place. These include an increase in literacy with very little difference between male and female literacy; especially in the age group of 10 to 24 years; a fall in the married population, especially among women of the age group of between 10 and 24 and an increase in the female labour force. These trends are reflected in the tables in **Appendix – 6: Karachi (Urban): Summary of Socio-Demographic Data**.

Also, Karachi is the only place in Pakistan where all the six major languages of the country are spoken including all the minor languages as well. For this reason, the city is known as mini-Pakistan.

Planned Areas and Katchi Abadis: Karachi requires 80,000 housing units per year to house its growing population. However, according to 1999 estimates, building permits were issued at an average of about 26,700 units per year for the previous five years. The demand-supply gap in housing has been met by the construction of an estimated 28,000 new housing units per year during the same period[29]. This does not include the densification in existing *katchi abadis*. According to official estimates, more than 50 per cent of Karachi's population lives in *katchi abadis* or "slum" areas. These slum areas consist of over 1,200 villages that have become part

[29]. Hasan, A., Understanding Karachi, City Press Karachi, 1999.

of the urban sprawl or of high density environmentally degraded inner city areas. Table 2.6 and Table 2.7 below show the growth of *katchi abadis* and "slums" over time.

Table – 2.6

Population of Katchi Abadis

	'70s (1978)	'80 (1985)	(1988)	'2000 (Projection)
Population	2,000,000	2,600,000	3,400,000	5,000,000
Number of households	227,000	356,000	465,000	680,000

Source: Hasan A., 1992, Seven Reports on Housing, OPP-RTI
Worked out by the author from:
1. Dowall, D. Dr., 1989, Karachi Land and Housing Study, KDA-Master Plan Department (MPD)
2. World Bank, October 1990, Shelter for Low Income Communities: Inception Report on Sindh.

Table – 2.7

Population of Slum Areas

	'70s (1974)	'80 (1986)	'2000 (Projection)
Population	709,000	1,036,000	1,064,400
Number of households	109,077	164,000	148,000

Source: Hasan A., 1992, Seven Reports on Housing, OPP-RTI
Calculated by the author 1991 from Socio-economic Profile of Planned Areas and Katchi Abadis: KDA-MPD/AERC, 1989

According to unofficial estimates, there are 702 *katchi abadis* in Karachi. Of these, 483 *abadis* having an estimated population of three million have been identified as regularisable[30]. The KAIRP in Karachi has not been very successful for reasons similar to those for the rest of Pakistan. For example, ADB and World Bank loan of Rs 427.137 million (US$ 7.118) was provided in 1984 for the implementation of the programme. This loan was meant for 110 *katchi abadis*. Work has been completed (residents say it has not) in 33 *abadis* and leases have been issued to 108,245 housing units[31]. Meanwhile, new *katchi abadis* have been created every day.

Karachi planners divide the city between planned areas and *katchi abadis*. A comparison between the two areas show major differences in physical and social conditions related to demography, housing, access to utilities, education, income and transport usage. The survey was carried out for the Karachi Development Plan 2000 and is a bit out of date but it is the only survey of its kind. Details are given in Table 1 in **Appendix 7: Comparison between Different Income Localities of Karachi**.

Apart from the differences between planned areas and *katchi abadis*, there are also major differences between different income settlements as well. These are given in Table 2 in Appendix 6. Thus, the elite Karachi settlements have physical and social conditions that are comparable to the developed world and the poorer settlements have conditions that are comparable to the worst conditions in the developing world. The overall housing situation in Karachi is summed up in Table 2.8.

30. SKAA 35th Progress Report, SKAA, September, 2002.
31. Ibid.

Table – 2.8

Karachi: Physical Conditions

	1981	1998
No. of Housing Units	858,000	1,457,000
Rental Housing	26.40 %	32.48 %
One room houses	44.94 %	30.09 %
Three room houses	13.96 %	21/12 %
Average persons/ room	3.1	2.89
Electric Connections	65.78 %	93.79 %
Water Connections in house	44.45 %	74.38 %
Water Connections outside house	45.39 %	7.41 %
RCC roofs	42.54 %	56.04 %

Source: Housing Census Reports, Government of Pakistan

Environmental Conditions: Karachi requires 600 to 800 million gallon per day (MGD) of water. It receives 360 MGD. Water losses through pilferage and leakages is estimated at 40 per cent[32]. Subsoil water is brackish and the only reliable source is from the Indus which is more than 130 kilometres away from the city and cannot be tapped any further. Water does not reach the extremity of the city even though a network to most of the peri-urban areas exists. These areas are supplied water through about 5,000 tankers to operate more than 50,000 trips per day[33].

The official sewage system serves only 40 per cent of the city's population. Only 20 to 40 MGD of the 295 to 350 MGD of waste water and sewage produced by the city is treated. The rest goes into the sea through natural drains or *nallas* as they are called. This is in spite of the fact that the treatment plants of the KW&SB have an installed capacity of 151.50 MGD. This is because the treatment plants do not pick up the sewage which has been designed to flow into the natural drainage system[34]. As a result of untreated sewage reaching the sea and because of an absence of separation between industrial and domestic sewage, sea life has been polluted near the Karachi shore line with toxic metals and is becoming increasing dangerous to consume[35].

The KW&SB has had major financial problems. It has 1.17 million households linked to its system. However, only 758,500 are on the billing roll and only 163,000 are regular payers. There is no sewage charge and the KW&SB owes Rs 42 billion (US$ 0.7 billion) to the federal government against loans borrowed from the ADB for its Greater Karachi Sewerage Plan. The KW&SB has not yet started servicing this debt.

The solid waste situation in the city is summed up in the Table 2.9 below. The waste separated by housewives and waste pickers is taken to the recycling factories which are within the city and as such a source of considerable pollution and conflict between the recyclers and the residents of the area where the factories are located. The collection of solid waste is done from neighbourhood bins, known as *katchra kundis*, by the town councils. The waste is supposed to be taken to a land-fill site but since it is too far it finds its way to scavengers' colonies and

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32. Hasan, A., Understanding Karachi, City Press Karachi, 1999.
33. Ibid.
34. Ibid.
35. Hayat S., Coastal and Marine Ecosystems, unpublished paper prepared for the under preparation IUCN Sindh Environmental Profile, 2003.

informal dumping areas. The solid waste disposal problem is illustrated in **Box 2.1: Waste Pickers and the Recycling Industry**.

Table – 2.9

Solid Waste Collection and Disposal in Karachi

	Tons Per Day
Separated by housewives and sold to *kabaris*	800
Separated by waste pickers from neighbourhood dumps and markets	700
Fuel for kilns	350
Used for land reclamation	350
Lifted by KMC	2,200
Not picked up (most of it dumped in natural drains)	2,200
Total	**6,600**

Source: Hasan A., Understanding Karachi, City press Karachi, 1999

Due to NGO advocacy work there is a growing awareness in the city government that solid waste cannot be managed without integrating the recycling industry and its services sector into the process and without increasing the number of land-fill sites to four.

Box – 2.1: Waste Pickers and the Recycling Industry

About 700 tons of recyclable waste is collected from the KMC neighbourhood garbage dumps or *kutchra kundis* as they are called. This activity is carried out by about 21,000 waste pickers, most of whom are young Afghan boys and who work in groups of 5 to 20. Each group is linked to a "contractor". For their convenience, the waste pickers scatter the waste on to the public spaces around the *kutchra kundis,* creating large scale environmental pollution. The pickers collect paper, plastic, rags, bone and metal. They put these in big plastic bags and carry them to sorting places. If the sorting point is near the *kutchra kundi*, the pickers carry it there physically or on bicycles. If it is far, a donkey cart or a Suzuki pick-up is hired for this purpose. Most of the sorting places are located near the *nallas*, under bridges, in open spaces meant for parks and playgrounds, in abandoned public latrines and even at bus stop sheds. The contractor pays *bhatta* (illegal gratification) for the use of these spaces to functionaries of government departments who own the space or to neighbourhood toughs and to the police. KMC garbage collection crews and drivers do not lift garbage from the *kutchra kundis* regularly so as to help the pickers in their work. In return the contractor pays the KMC drivers and crew between Rs 50 to 150 (US$ 0.83 to US$ 2.5) per day. In addition, the cost of the diesel saved by not making the journey from the *kutchra kundis* to the distant land fill sites, is also pocketed by the KMC staff.

The sorting point is operated by a contractor who hires 4 to 6 persons to separate different items and to pack them in separate containers. From the sorting point the packed waste is taken to Sher Shah factories for primary recycling or to dealers who are also located in Sher Shah, for refined sorting. Alternatively, in a few cases, it is taken directly to factories in Korangi, New Karachi, Orangi and in Sher Shah itself for recycling or sent to recycling factories in the Punjab industrial cities. The journey from the sorting place to Sher Shah or other locations is by pick-ups and sometime by trucks. Since these vehicles are overloaded, they pay Rs 150 to 200 (US$ 2.5 to US$ 3.33) per trip as *bhatta* to the traffic police. In addition, Rs 10 to 15 (US$ 0.16 to US$ 0.25) are paid at every police *chowki* (post).

Paper and bone are the two main items that are collected from the dumps. Others such as plastic, glass and metal are removed at home by housewives and sold to the *kabaris* (collectors of clean waste) Paper is turned into cardboard and bones are boiled to remove grease from them. The grease is used for washing soap factories and also for soap making. The bones are ground and mixed with poultry feed. The grease-removing process is very polluting and since these Sher Shah factories are in dense residential areas, there is constant conflict between the residents and the factory owners.

In addition to picking from dumps, pickers invade all the city markets, even in high income areas, after they close at around 7:30 pm. Here the contractors, and sometimes the pickers as well, pay the market administrators, caretakers and or shopkeepers for the waste they collect.

(*Source: Ali, Mansoor and Hasan, Arif: Integrating Recycling and Disposal System for Solid Waste Management in Karachi: unpublished report, 2001*

Traffic volume has grown in Karachi from 23,000 vehicles in 1948-49 to over one million vehicles in 2000. Several studies have been carried out to document the high level of lead in the atmosphere of the city. A 1989 study, reported a mean blood lead level of 38 ug/dl among relatively healthy children of a school located in a highly congested area of Karachi. For children studying in another school located in a less congested area, the mean blood level was 38.2 ug/dl. High blood lead levels of 47.7 (+15.8) ug/dl were found present among traffic constables serving in the main city areas[36]. Similarly, a 1994 survey identified noise levels varying from 87 to 99 decibels at the harbour, vegetable and meat markets and in the bazaars of the city. Even in hospitals, noise levels of 81 to 82 decibels were identified[37].

Evictions and the Politician-Bureaucrat-Developer Nexus: About 70 per cent of the *katchi abadis* of Karachi have been marked for regularisation. However, the rest, including those that have been established after 1985, are vulnerable. From June 1992 to June 2001, 17,438 housing units were demolished in the *katchi abadis*. Most of these demolitions were carried out to make way for formal sector developer built residential and commercial buildings. Many of these demolitions violated state laws and procedures[38]. These demolitions are made possible by a powerful politician-bureaucrat-developer nexus that also makes a mockery of building rules and regulations and in the process damages the physical and social environment. Civil society organisations have been struggling against this nexus. One such organisation is SHEHRI and its work is described in **Box 2.2: SHEHRI-Citizens for a Better Environment and the KBCA Oversee Committee**.

Box – 2.2: SHEHRI-Citizens for a Better Environment and the KBCA Oversee Committee

SHEHRI was formed in 1988 in Karachi by concerned citizens and professionals to provide citizens with a platform to effectively voice their concerns and take action in arresting the deterioration of their living environment and propose reform with a view to improve the quality of life in the city.

SHEHRI works on many fronts related to various aspects of the built and natural environment. This work involves research, dissemination of information, holding of forums, proposing institutional reforms and working for transparency and efficiency in local government and development institutions. However, SHEHRI's main achievements are related to its struggle against the construction of illegal buildings, bye-law and zoning violations by developers, and ad-hoc and often illegal land use changes in Karachi.

This struggle began in 1988 by challenging the construction of illegal buildings in PECHS. It was followed in 1992 by a survey of the built-environment in the Garden Road area. This survey established that the vast majority of new construction in the Garden Road area was illegal and was destroying its social and physical environment. After the survey, negotiations were initiated with the Karachi Building Control Authority (KBCA). These negotiations and their follow up established that these illegal constructions were

36. Beg, M.A., Urbanization and Its Environmental Repercussions, unpublished paper prepared for under-preparation IUCN Sindh Environmental Profile, 2003.
37. Ibid.
38. Aquila Ismail, Evictions, URC/City Press Karachi, 2002.

the result of a powerful nexus between politicians, bureaucrats and developers. As a result, SHEHRI went to court and sought relief. The courts were supportive. However, it was also discovered that the builders used the stay provided by the court to their own advantage by misinterpreting its provisions. In this they were supported by the KBCA staff. To overcome this problem, SHEHRI has written to all levels of the judiciary to make them aware of the advantage taken by the builders and the KBCA, when injunctions are granted by the courts in favour of the builder which restrain KBCA from performing its statutory duties. Due to this effort the judges are now becoming more specific in the wording of the injunction. Through this work SHEHRI has been able to identify the actors and the processes in the illegal building and land use violation drama in Karachi and to make this knowledge public.

Because of the knowledge it had gained, SHEHRI pushed for amendments in the Sindh Building Control Ordinance (SBCO) and was instrumental in getting these drafted in 1996. They have yet to be implemented. However, through SHEHRI's pressure and press campaigns, a KBCA Oversee Committee was formed in 1996. This Committee contains, apart from government functionaries, technical people from relevant professions, SHEHRI representatives, representatives of academic institutions and eminent citizens and an eminent lawyer. In addition, a sub-committee is in the process of reviewing bye laws and zoning regulations.

The Oversee Committee has already taken a number of steps to help the public in its struggle for a better environment and for promoting transparency in the working of the KBCA. A public counter has been established permanently for the benefit of the aggrieved public, where on the payment of a prescribed fee, the plans and documents of any project can be obtained, and other information and assistance is also provided. Besides the KBCA staff, a representative of the Oversee Committee is also employed at the counter (his salary is met through donations) to help the citizens. In addition, public warning notices against illegal constructions have been made mandatory for KBCA to publish through the media. This helps people to know the true status of any construction.

In its struggle against land use changes SHEHRI has been able to prevent the sale of *gutter baghaicha* (a sewage farm, now in the centre of the city) and of the Karachi Transport Corporation (KTC) bus depots. These would have been converted into commercial development. Now they can be used for recreational purposes and the KTC plots can also be used for the needs of the transport sector. SHEHRI's work has also led to the creation of green courts which have now been upgraded into environmental tribunals. These are a requirement under the Environmental Protection Act, 1997.

The developer's lobby has been active against SHEHRI. It has also beaten up SHEHRI members, threatened SHEHRI staff and carried out an assassination attempt on SHEHRI's president. On the other hand, residents now identify illegal construction and land use changes in their neighbourhood and come to SHEHRI for help and advice. This is given by SHEHRI's Legal Resource Sub-committee. In addition, SHEHRI also has an Anti-pollution Sub-committee and a Park and Recreation Sub- committee which provide information and awareness to the public.

SHEHRI has a two member full time staff. The rest are volunteers. Its future programmes include a study of bye-laws and building procedures in Sukkur, Larkana, Hyderabad and Sehwan and going to court regarding the sale of adulterated petroleum. The later is to test the law on National Quality Standards.

SHEHRI constantly informs the city administration and development agencies through fax, letters and contacts, regarding issues related to illegal construction, land use changes, environmental degradation and misuse of official powers. As a result of this and its work, SHEHRI is now increasingly consulted by officialdom, regarding Karachi's development, environmental and institutional issues.

Source: Hasan, A, Understanding Karachi, City Press, Karachi, 1999.

In the past most evictions were the result of pressure from the nexus. However, in the recent past the demolitions have been caused by badly conceived infrastructure and urban upgrading projects. 25,000 housing units have been earmarked for demolition because of the building of the Lyari Expressway on both sides of the Lyari river[39]. In addition, hawkers in their thousands are evicted from the inner city but reappear by paying a higher bribe to the police and city government agencies. Plans for their rehabilitation in the inner city have been developed by NGOs and are being negotiated with the city government.

Informal Settlements and Macro Level Issues: The problems of the low income settlements are closely related to macro level city planning issues. Almost all the infrastructure developed for *katchi abadis* and other informal settlements does not link up with city level infrastructure. Sewage systems within these settlements have no disposal points; water systems do not have an adequate source of water; roads do not link up with major city arteries; schools in the private sector have difficulty in improving their conditions and being recognised by the government's education department; and health clinics in low income settlements have no links with hospitals and laboratories in the formal sector. This is because these low income settlements are not integrated into a larger city plan but are treated as separate entities. The physical work carried out in them consists of "projects" which are not a part of a programme or a structure plan[40].

In addition to the above, the residents of these low income settlements have other problems. Their homes are mostly in peri-urban areas far away from their places of work. Transport facilities are expensive and of poor quality. It takes a long time to commute between home and work and the journey is exhausting and along heavily polluted corridors of movement. Women, old people and small children find it difficult to use this transport. The result of these conditions is fatigue, low productivity, expense and severe physical and mental stress.

Government plans for transport, traffic engineering, sewage disposal and housing and urban structural plans are grandiose in nature relying heavily on foreign loans. CBOs, NGOs working in low income areas and concerned and or relevant professionals and academic institutions make no input into them since a process of consulting them for making them a part of the planning and implementation process does not exist. Therefore, apart from being grandiose, these plans do not serve the needs of the residents of low income settlements.

Many master plans and structure plans have been prepared for Karachi. The last two were prepared with the assistance of the UNDP. These were the Karachi Master Plan 1975-1985 and the other was the Karachi Development Plan 2000. Reviews by independent reviewers have considered the plans as inappropriate since they did not take into consideration the existence of a powerful informal sector in housing, employment, social and physical infrastructure provision, solid waste management and transportation[41]. In addition, the government of Sindh did not give legal protection to these plans and as such they never became law.

In the past decade, government investment in per capita terms has declined in education and health with the result that an increasing number of people have to rely on expensive private sector facilities. In transport, it is no longer there, the private sector has taken over. Privatisation

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39. Ibid.

40. Hasan, A and Alimuddin S., Governance, Decentralisation and Poverty Eradication: The View from Orangi, unpublished report prepared for the South Asian Perspectives Network Association (SAPNA), Colombo, 2002.

41. Hasan A et al., Evaluation of the Karachi Development Plan 2000, unpublished report prepared for the UNDP, 1992.

of a number of government service provision agencies has also been pushed and has received considerable opposition from civil society groups. As a result of structural adjustment, utility charges of electricity and gas have been increased by over 100 per cent in the last five years. More increases are expected. Liberalisation of trade has replaced Pakistani light engineering goods by imports from Taiwan and Malaysia with the result that Karachi based light engineering industries are closing down. All these factors are increasing vulnerability of the poorer sections of the Karachi population most of whom live in the *katchi abadis* and "slums" of the city.

Civil Society Organisations: Karachi has a very active civil society. This is because of years of ethnic conflicts and a continuous struggle for democracy between 1977 and 1989. There are a large number of NGOs and CBOs, supported by academic institutions and concerned citizens. While CBOs look after part of the development and maintenance needs of their neighbourhoods, NGOs try to interact with government agencies in making policies and plans more realistic and people friendly. They hold forums regarding the problems of the city and its residents, invite interest groups to these forums, and get their point of view published in the press and certain sections of the press are very supportive. Two newspapers also have their own forums in which they invite different points of view on important social and physical planning issues. A large number of people attend these forums. The government usually does not follow the advice of these NGOs or forums but in recent years has started consulting them increasingly. Apart from the OPP and URC, three other NGOs are playing a major advocacy and service provision role. SHEHRI (meaning citizen), struggles against illegal land-use changes; for the implementation of existing laws, regulations and procedures; and for developing the institutional arrangements required for doing this see Box 2.2: SHEHRI. The Citizens-Police Liaison Committee (CPLC), works against crime and police excesses. Its work has brought relief to a politically polarised city and is summarised in **Box 2.3: The Citizens-Police Liaison Committee (CPLC)**. The third organisation is the Pakistan Institute of Labour Education and Research (PILER) which carries out research on the labour conditions in both the formal and informal sectors and arranges training for improving the skills of labour employed in industry and provides information to labour organisations. Apart from this, there is the Edhi Trust which provides a whole host of services (orphanages, drug rehabilitation centres, funeral and education for the needy, ambulance services and disaster relief) to the people of Karachi and is funded almost entirely by donations by Karachiites. There were over 800 registered CBOs in the *katchi abadis* of Karachi in 1992 alone[42]. The figure must certainly have increased over the years.

Box – 2.3: The Citizens-Police Liaison Committee

The Citizens-Police Liaison Committee (CPLC) was established by a group of industrialists and professionals of Karachi, with the help of the then Governor of Sindh, Justice (Retd) Fakhruddin G. Ibrahim in 1989, with Mr. Nazim Haji and Mr. Jameel Yusuf appointed joint heads to oversee the functioning of the CPLC. The Committee was authorised to: oversee the working of police stations through five district CPLCs established adjacent to the respective Senior Superintendent of Police (SSP's) offices; educate and assist the citizens to enforce their rights vis-a-vis the police; assist the police in the performance of their legal duties; motivate citizens to help the police in 'Beating Crime Together'; and, assist the citizens who are victims of crime. The CPLC also has a Central Reporting Cell located at the Governor's House and District Reporting Cells located at District SSP offices for easy access to the general public to lodge their complaints.

The notified functions of the CPLC include: to ensure that FIRs are duly registered and no FIR/complaint is refused; to find out if dilatory tactics are being adopted by the investigating officers in

42. NGOs in the Katchi Abadis of Karachi, UNICEF Sindh, 1992.

investigating cases; to ensure that the process is being done properly; to collect statistics of various kinds of cases registered and disposed off; to find out if all registers required to be maintained at a police station are being properly and regularly maintained; to find out if any person is unlawfully and unauthorisedly detained at the police stations; to assist the police in taking steps for the preservation of peace and the prevention or detention of crimes; to see that no gambling den or any unauthorised/illegal business is being carried out in the area; to report the acts of misconduct or neglect of duty on part of any police officer; and to perform such other functions as may be assigned by the government. The CPLC also registers citizen's complaints, keeps a record of car thefts, dacoities, kidnappings, accidents and all such matters related to police assistance.

The CPLC has a Central Command Computers System which allows quick and easy access to information by computerised record keeping and assists the police. There is also a Criminal Identification and Sketching System which develops sketches of suspected criminals in order to identify them. A graphic information system for crime analysis is also available at CPLC which allows satellite imaging of the city. CPLC keeps detailed records of crime reported and those solved. Detailed mapping and statistical records of the information provided is easily available.

CPLC has played an important role in educating and informing the citizens of Karachi about their duties and rights regarding crime and in their dealing with the police. In the last ten years, 229 cases of kidnapping for ransom have been reported and due to CPLC's efforts, 72 gangs have been apprehended, 187 cases (82 per cent) have been solved and 300 criminals arrested. Moreover, the number of kidnapping have fallen from 79 in 1990 to around 20 in 1997 and 1998. Recent data on the theft and recovery of stolen and snatched vehicles from Karachi, shows that with CPLC's help, around 65 per cent vehicles have been recovered.

It is also necessary to point out that the CPLC is very much a citizen's group and it is their effort which is trying to help establish peace in one of Asia's most violent cities. Although the government supports the CPLC's initiatives, it provides only 19 per cent of the organisation's finances; the rest of the contribution comes from citizen's assistance.

Source: Hasan, A.: Understanding Karachi, City Press, Karachi, 1999

OPP, URC and a number of other NGOs have a working relationship with each other and with a large cross section of CBOs and interest groups. No local government structure can be effective without recognising them, involving them and making use of their immense understanding and knowledge which few government servants and planners possess. This being increasingly understood by officialdom.

2.3 Orangi

Administrative Structure: Orangi is one of the 18 towns of Karachi city district. It consists of 13 UCs. The town and each UC has a *nazim* and *naib nazim*. The town council is in-charge of planning, implementation and operation and maintenance of major social and physical infrastructure such as trunk sewers, access roads, water source development and transmission, provision of vehicles for solid waste lifting and disposal and seeking funds from the *zila* council for the establishment and operation of education and health facilities. The UCs are in-charge of planning, implementation, maintenance and operation of local level tertiary and secondary infrastructure and for organising solid waste collection in support of the towns solid waste management programme. Under the LCGO 2001, the UCs can also perform the functions that the town is currently carrying out and can also access funds for them on its own. However, currently the Orangi UCs do not have the managerial, technical or financial resources to take on these functions. In addition, their relationship with the town is one of suspicion and hostility

since they feel the town is not permitting them the independence that the LCGO 2001 offers them. Also, the town council has yet to establish itself as a proper administrative, technical and financial institution.

Previously, Orangi was part of district West of Karachi city and was governed by the District Municipal Council (West) and by the KMC. After the enactment of LCGO 2001, the five district administrations have devolved to the 18 towns.

Under the previous system, Orangi had 15 elected councillors. There were a number of *de-jure* functions that the councillor was supposed to perform. However, in addition to these functions, he also performed a large number of informal functions. Most of these were forced upon him by the residents of his ward. For example, he collected demand forms for electricity connections from house owners and deposited them with the KESC. He also arranged for the testification of official documents required by members of his ward. He had a liaison with the local administration and the police and as such criminal and law abiding citizens both required his help in matters related to the police station and district administration. Councillors were informally paid for performing these functions by those who benefited. Under the new system, these previously informal functions have now become the responsibility of the UC *nazim* and *naib nazim*.

The Settlement and its People: As a township, Orangi was planned by the Karachi Development Authority (KDA) and settlement began in 1965. The plan covered 520 hectares and residents of bulldozed inner city *katchi abadi* were relocated in Orangi. No services were provided (except water which was supplied by tankers), transport by the informal private sector and a link road to the city. Around the settlement *katchi abadis* started to spring up almost immediately as the settlement was only three kilometres from the main industrial area of Karachi. Today, Orangi covers an area of approximately 3,400 hectares having over 100,000 houses with a population of about 1.2 million. There is not much of a difference in the manner in which the planned area of Orangi and the *katchi abadis* around it evolved[43].

The *katchi abadis* of Orangi were established by informal developers with the informal support of government officers and the local police. How this was done is described in **Box 2.4: The Informal Subdivisions of Yakoobabad**. Yakoobabad is one of the Orangi settlements. The people involved in the setting up these *katchi abadis* emerged as the Orangi leadership. Later on, politicians supported the process by providing protection and infrastructure (in an ad-hoc manner) to these *abadis.* Meanwhile, the informal developers and their musclemen became members and local leaders of the political parties. To lobby for services the informal developers created “welfare” organisations which claimed to represent the various sectors of Orangi. These welfare organisations were properly registered legal persons. They held annual elections to their governing bodies and audited their accounts. Both the elections and accounts were often manipulated.

Box – 2.4: The Informal Subdivisions of Yakoobabad

Yakoobabad is an informal subdivision settlement of about 2,000 houses in Orangi Township. Before 1977, it was vacant land belonging to the Central Board of Revenue (CBR). The CBR had given it on a renewable one year lease as pasture land to an elder of the Rind tribe (henceforth referred to as X).

Mr. Y is one of a number of informal developers who have illegally developed more than 200,000 plots on government land in West Karachi alone, over the last 30 years. Like other developers he has close

[43]. Worked out by the author from information/maps available with the OPP-RTI.

links with officials in the CBR, KMC, police and other departments relevant to his work.

In February 1977, Y moved onto X's land with 100 "destitute" families. These families were transported in trucks along with bamboo posts and mats (supplied by Y) for the construction of shacks. Y had identified these families through his contacts in the settlements he had created earlier. As soon as the families started putting up their shacks, members of the Rind tribe arrived in jeeps carrying guns and tried to eject them. A scuffle followed and a number of Y's people were injured. It was decided between the two parties that no houses would be put up but the "destitutes" could stay on the land until matters were settled.

The next day X hired a lawyer and made a case in a court of law against the occupation of his land. The case was admitted. Y on the other hand, filed a complaint with the local police saying that the Rind tribe had caused "bodily harm" to his clients. After this the local *thana* (police station) arranged negotiations between the two parties. As a result, it was decided that the Rind tribe would receive Rs 500 (US$ 8.33) for every plot that was developed by Y. The plots being given to the 100 "destitutes" were exempt from this payment and Y also did not receive any payments for them. It was further agreed that Y would pay Rs 200 (US$ 3.33) per plot to the KMC officials from the sale proceeds and that the police would recover Rs 200 (US$ 3.33) or more directly from the owners when they converted their shacks into concrete wall constructions. After the negotiations were completed, the Rind tribe withdrew its case against Y.

Y then laid out Yakoobabad on a gridiron plan. His apprentices (he was also an apprentice once) helped him in this work. The roads were levelled by informally hiring tractors and a bulldozer at a nominal cost from KMC staff in West Karachi. Space for a mosque and a school were set aside and plots on the main road were allocated for shops and businesses. At this stage negotiations were entered into with representatives and touts of government officials who could be of help in the future development of the settlements. 30 per cent of all plots were set aside for these officials for speculation purposes. Whoever purchased a plot in the settlement (except for the ones reserved for officials) had to construct a house in a month's time and move in, failing which he would lose his plot and the money he had paid for it. Thus Y prevented speculation and saw to it that the settlement would expand fast.

X appointed a *chowkidar* (care taker) to keep track of the number of plots that were developed so that Y may not cheat him. In the same manner, the KMC officials also had their informal representatives visiting the site regularly. Accounts were settled between the parties every week.

Y engaged donkey cart owners to supply water to the settlement. These suppliers acquired water illegally from the KMC water mains in Orangi. The payment of the first supply of water was made by Y, after which the people dealt with the water suppliers directly. A few weeks after the first shacks were built, a contractor, Nawab Ali, established a building component manufacturing yard, or *thalla*, in the settlement. He started supplying concrete blocks and tin roof sheets for the construction of houses along with technical advice and small credit. As such, he became the architect and the HBFC to the residents of Yakoobabad. He also constructed a water tank for curing purposes and this tank became a source of water supply for which the residents paid. In the initial ten year period, 92 per cent families had built their homes with support from Nawab Ali and 62 per cent had made use of the credit offered by him. At the same time as Nawab Ali, another entrepreneur, Faiz Mohammad Baloch, moved into the area. He set up a generator and started supplying electricity to the residents at the rate of Rs 30 per tube light or a 40 watt bulb. This sum was to be paid in advance and an advance non-payment for the next month would lead to a disconnection. Later Faiz Muhammad Baloch opened a video hall where three films per day were advertised and illegally exhibited to an audience of about 20 to 50 people per show. The local *thana* permitted this and received *bhatta* (illegal gratification) for their support.

Y has formed a welfare association of all the households who have ever purchased a plot from him. This association is a legal person registered under the Societies Act. The Yakoobabad families became members of this association and through it Y and the Yakoobabad leadership have lobbied

for infrastructure and improvements in the settlement. In this they have been helped by officials and politicians, who hold plots in Yakoobabad, since all improvements increase the value of property.

Most of the early residents of Yakoobabad were people who owned no homes or who could not afford to pay rent. Later residents came to Yakoobabad to escape from degraded physical, social and environmental conditions in the inner city. By 1989, Yakoobabad had become a "proper" settlement and even lower middle income families started to shift here and as a result, the physical and social environment of Yakoobabad underwent a major improvement.

Today, 60 per cent of Yakoobabad has electric connections (acquired through the bribe market) and the rest of the 40 per cent either buy electricity from their neighbours or illegally tap the KESC mains by paying the KESC staff. There is still no piped water although water mains and trunk sewers under an ADB financed project have been laid. However, water now comes through tankers and not by donkey carts. The area has 10 primary schools, 2 secondary schools, 6 clinics and many roads have been paved by the councillors. The education and health facilities are all in the private sector. Transport through mini buses and Suzuki pick-ups is available. In addition, 401 micro enterprise units provide employment to over 2,600 persons in the settlement. Most of the units are engaged in garment stitching and *zari* (golden work on cloth) work and employ women. Nawab Ali has shifted his *thalla* to a newer settlement and Faiz Mohammad Baloch has become a video shop owner. A plot that was sold for Rs 900 (US$ 15) in 1978 now fetches a price of over Rs 30,000 (US$ 500).

The people of Yakoobabad have paid far more through bribes and extortion for their land and its development than they would have for a government developed housing scheme. But, they have paid for this incrementally over time and in sums that were affordable to them. In addition, this struggle to improve their conditions has transformed them into a community.

There are over 700 settlements like Yakoobabad in Karachi, housing more than 50 per cent of the city's population. They grow at a rate of 9 per cent per year against an annual urban growth rate of less than 4 per cent. It is they, and not the state agencies, that are determining the future physical, social and political structure of the city.

Source: Hasan A.: Seven Reports on Housing, OPP-RTI, 1992. This information was updated through interviews in 1999.

When the KMC, due to political pressure, started to invest in infrastructure in Orangi, a new leadership emerged which had close links with the Orangi developers and leaders. This leadership consisted of contractors and their touts who worked closely with the KMC engineers and received commissions from them. A powerful nexus between the old leadership and its musclemen, contractors, councillors and the staff of the local police station and the KMC was created. In the political process, this nexus changed loyalties frequently and ended up by supporting the most powerful ethnic party in Karachi who claimed to represent the majority of Orangiites.

Community organisations and a powerful informal sector emerged to provide services, employment, health and education services to the Orangi residents. The work of these two entities is described later in the text. These CBOs and the informal sector have brought about an enormous change in the sociology and economy of Orangi. In this process they have been helped by the OPP-RTI and by the OCT. Akhtar Hameed Khan described Orangi very comprehensively in 1991. He wrote:

"Familiarity with Orangi reveals that a town larger than Colombo or Gujranwala receives scanty services from official agencies. The people of Orangi depend mainly on 'informal' sources. Land is obtained through dallals (middlemen); credit, materials, and advice for housing is obtained

from thallewalas (concrete block manufactures). Self-supporting schools teach their children. Quacks (physical and spiritual) treat their ailments. They continuously resort to the black market or the bribe market for business facilities or welfare amenities or peace from harassment. That this informal sector and its black market is many times the size of the official sector indicates the weakness of government planning for the poor. At the same time it indicates the vitality of the poor and their skill in the art of survival. Besides, their vitality is demonstrated by the presence everywhere of anjumans (associations) which lobby intensely all the time, presenting claims and guarding gains. It is further demonstrated by the growing consciousness, especially among the younger generation, of their collective vote power and street power."[44]

The people of Orangi are a very mixed lot. They come from all over Pakistan, Bangladesh and India and live both in separate and mixed neighbourhoods. About 25 per cent of them are refugees from Bangladesh and migrated to Orangi as a result of the civil war in Pakistan in 1971-72. About 35 per cent have moved from other Karachi neighbourhoods and another 10 per cent are residents of old pastural villages who have been absorbed by the Orangi *katchi abadis* and on whose pasture lands the settlement has been created. The rest 30 per cent are from all over Pakistan[45]. Orangi constitutes about 10 per cent of Karachi's population and so Orangi, like Karachi, is often known as a mini Pakistan. The majority of the population is working class and those who are not are the descendants of working class parents[46].

The Orangi settlements have been planned on a grid iron (see **Appendix 8: Map of Orangi 1987**). The informal developers who have planned them have tried to follow the bye-laws of the KDA, with some important modifications. The streets are 7 metres wide (as per KDA regulations), but there are cross roads after every 12 to 14 plots. This is to increase a number of corner plots which fetch a better price. Access roads are normally 13 metres wide and space for a mosque is always provided for. However, plots for schools, hospitals, parks, and for other social and recreational facilities are never provided. Communities struggle to acquire such open spaces. Plot sizes are normally 60 or 80 M2 and no infrastructure facilities are provided. Most houses begin as a shack and a toilet and then a one-room un-plastered concrete block walls and tin roof structure is put up. However, they improve slowly over a period of time. Consequently, there are major differences between the early Orangi *katchi abadis* and the newer ones that are being created.

Although Orangi is a *katchi abadi*, its socio-economic indicators are somewhat better than those of old villages that have become a part of Karachi's urban sprawl. This can be seen from Table 3 in Appendix 7. This survey was published in 1989 and since then conditions in Orangi have certainly improved as is obvious from literacy figures in the 1998 Census. According to Table 3 in Appendix 7, the crude birth rate in Orangi was 40.8 (per 1,000 live births), the crude death rate was 9.6 (per 1,000 population) and the infant mortality rate was 110.4 (per 1,000 population). 90 per cent of the families live in houses that they "own", which means that they can acquire a 99-year lease for them through KAIRP.

The Lease Process: Almost all the settlements in Orangi have been marked for regularisation except those that are on private land or those that have encroached on the natural drainage system. Upgradation plans for the settlement were developed by the defunct KMC's KAD which was also in-charge of regularising the Orangi settlements. For this purpose, the KMC set up

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44. Khan A.H., The Orangi Pilot Project Programs, OPP 1991.
45. Estimates worked out by the author from mother tongue data of the 1998 Government of Pakistan Population Census Reports.
46. Ibid.

mobile lease camps (which operated from the *katchi abadis*) where through a "one-window operation" residents were supposed to acquire a lease. The camp concept was developed to simplify procedures so as to save people time, money and hassle and to make corruption more difficult, but this has not worked out all that well. Inaccurate maps of the settlements were developed on purpose by KAD showing existing houses as open plots and commercial or amenity areas. In addition, the staff did not turn up regularly during the camp period and people had to wait for it for hours on end. To rectify errors in the map required informal payments from those effected by them and so did getting a lease promptly. Due to these problems the residents were forced to seek the assistance of middle men who got a 120 M2 plot leased for Rs 7,500 (US$ 125) whereas the actual lease charges are only Rs 4,500 (US$ 75). The Rs 3,000 (US$ 50) charged in excess by the middleman was shared between him and the staff of the KMC and the registrar's assistants. There were other problems also. People had to pay at one go as there was no facility for making payment in instalments which is more appropriate for poor families. In spite of this, about 50 per cent of the houses in the planned area and 25 per cent of the houses in the *katchi abadis* have acquired lease[47]. The regularisation and development process has now been made the responsibility of the town council but it has yet to start work on this subject.

In the regularisation plan of the KMC's KAD, areas were earmarked for amenities and recreation. However, the District Municipal Committee (DMC) seldom developed them as such. Most of the amenity plots were sold to groups or people who wished to set up a school, industrial home or a clinic. The parks were encroached upon by land grabbers if communities did not organise to protect them. There is evidence to show that the UCs will perform better than the DMCs. However, the Orangi activists feel that the attitude of the town council will be similar to that of the DMCs and KMC[48].

Water and Sewage: Water to Orangi comes from the Hub Dam which was developed by the KW&SB along with the main line to Orangi and the pumping stations related to it in 1981. Before that water to the settlement came by tankers subsidised by the KW&SB. In about 25 per cent of Orangi, a water supply system was executed by the KW&SB through an ADB loan. This was completed in 1994 but the KW&SB has not yet taken the responsibility for its operation and maintenance and the Orangi UCs are trying to look after it. However, water supply pressure is very low and a major part of Orangi is deprived of water for long periods of time and has to depend on tankers whose management has been interested to the rangers, a para-military federal organisation[49].

No official sewage system was built in Orangi before 1992, when about 20 per cent of Orangi was the beneficiary of an ADB funded sewage system. However, this sewage system consisted only of trunk sewers disposing into natural drainage channels. The secondary and lane sewers were made the responsibility of the residents and they have nearly completed their work. The sewage system built through the ADB loan was completed in 1994 but neither the KMC nor the KW&SB took the responsibility for its maintenance. The Orangi UCs are now trying to look after it[50].

Electricity: KESC is responsible for transmission and distribution of electricity in Orangi. It does not have any office in the township but there is a billing and complaint centre. 90 per cent of the

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47. Interviews of Smasuddin Sahib by the author and Architect Masooma Mohib for this study.
48. Ibid.
49. Interviews of Shamsuddin Sahib and information supplied by OPP-RTI Director, Parween Rehman, December 2002.
50. Interviews of Shamsuddin Sahib and Dr. Shakeel, Nazim UC-6, March 2000.

premises have electric connections of which about 20 per cent are illegal. These are being rapidly formalised[51]. Getting an electric connection is a long and painful process which includes bribing the KESC staff[52]. More recently, because of pressure from community activists, the KESC has accepted the OPP's "internal-external" concept. Under this concept the KESC provides poles and PMT whereas wire and other accessories are the responsibility of the people. Work is done through a KESC authorised contractor who is paid directly by the neighbourhood CBO. Through this process, the cost per house for an electric connection is reduced from Rs 7,300 (US$ 121.66) to Rs 3,608 (US$ 60.13)[53].

Government Provided Health and Education Facilities: In Orangi there are 76 government primary and secondary schools, one college for women and a technical institute is under construction. Eight of the schools were owned and administered by the KMC and the rest by the education department of the provincial government. These have now been taken over by the city government under the Devolution Plan 2001. Recently, a school for deaf and dumb persons has been established by the federal government on the advice and through funds made available by an Orangi Member of National Assembly (MNA)[54].

There are five hospitals and four maternity homes that are financed and run by the health department of the government of Sindh. In addition, there is one hospital financed and managed by the KMC health department[55].

These are the only education and health related institutions run through government funds and under government administration. They are grossly inadequate for the needs of the people of Orangi and therefore, these social sector services are either provided by the informal sector or by national and international NGOs.

The Role of Communities, the Informal Sector and NGOs: Because of the absence of government provided physical infrastructure and health and education facilities, activists, CBOs and the informal sector have emerged in Orangi to fill the gap. The Orangi houses have been built by the people themselves but with advice, materials and credit from small contractors. (The process is explained in Section 4 of this study.) This credit is in the form of both material and cash. 782 schools have been built by trusts, entrepreneurs and or public spirited individuals and there are more than 800 clinics run by doctors, para-medics and quacks who take care of the health needs of the people of the township[56]. People have come together to arrange water supply by tankers and set up mechanisms for distributing and financing it. They have tried to solve their sewage problems by laying sewer lines and building soak pits. In addition, there are over 40,000 micro enterprises that employ more than 150,000 persons[57]. Every trade and almost every neighbourhood has an organisation whose job it is to present its claims and guard its gains. This process of presenting claims and guarding gains is made possible by lobbying

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51. Interviews of Smasuddin Sahib by the author and Architect Masooma Mohib for this study.
52. Rashid A, in a case study in Community Initiatives: Four Case Studies from Karachi, edited by Hasan A, City Press Karachi, 1998.
53. OPP-RTI 88th Progress Report, December 2001.
54. Hasan, A and Alimuddin S., Governance, Decentralisation and Poverty Eradication: The View from Orangi, unpublished report prepared for the South Asian Perspectives Network Association (SAPNA), Colombo, 2002.
55. Ibid.
56. OPP-RTI, 92nd Quarterly Progress Report, September 2002.
57. OCT Director Anwar Rashid's estimates from an incomplete Survey of Micto-enterprises in Orangi, OPP 1992.

with government agencies, using political influence and catering to the bribe market where necessary.

However, this immense activity has many problems. The technical solutions to infrastructure and housing required professional help which the Orangi residents did not have. The health and education initiatives required training, access to resource persons and institutions, credit and professional advice which were not available. The micro enterprises required technical upgrading and credit for expansion. The former was non-existent and the later was only available in the open market at rates as high as 10 per cent per month. For effective development work, the elected councillors under the previous local government system, required area plans, proper designs, clear identification of the needs of their ward and estimates of construction costs. They did not have the expertise to prepare these. And above all, the activists of the Orangi CBOs and interest groups required a vision and support for it so that they could establish a more equitable relationship among the various actors involved in the development drama in Orangi. The OPP has tried to understand the initiatives of the CBOs, interest groups and the government and to give them the various types of support that they did not have.

It must be understood that settlements change. Orangi, when the OPP began working there in 1980, was an entirely working class area. The younger generation however, has received education. Many of them have become white-collar workers, bank managers, teachers, engineers and doctors. The old informal businesses are slowly becoming sophisticated and establishing links with the formal sector. Home schools are being turned into proper schools and a number of clinics are establishing links with city hospitals and the provincial health departments. These changes are creating a more equitable relationship between government agencies, the informal sector, city level NGOs and the Orangi CBOs[58]. However, this process has been badly affected by a sagging economy creating a big gap between people's aspirations and the economic reality of their environment.

A number of service provision NGOs are also operating in Orangi but have very little impact on the development of communities and awareness. Young Men's Christian Association support primary and secondary schools. Pak Medico International operates a technical school, a library and a college and offers scholarships to Orangi students for higher education. It also operates a hospital and a dispensary. The Marie Adelade Leprosy Centre have specialised hospital and dispensaries and there are Karachi NGOs who organise free medical camps from time to time.

New Hopes: There was little coordination between various government agencies working in Orangi. They did not follow a common master plan and nor did they have an understanding of each other's work and jurisdiction. What made matters worse was that they belonged to various levels of government; federal, provincial and local. The elected councillor under the old system was a major player in the development and service provision drama in Orangi. However, he had no technical or administrative organisation of his own and much of his work was ad-hoc. There were no procedures to promote transparency and accountability in the interaction between provincial government agencies, the DMC, the councillor and the Orangi community and interest groups. Orangi as such developed, to whatever extent, due to the efforts of its activists and its informal sector operators. However, with the enactment of the LCGO 2001, people have a hope that this situation will change but for that the UCs have to develop administrative and technical

[58]. Hasan A., The Informal City, paper reproduced in Proceedings of the Regional Seminar on Urban Poverty in Asia, Fukuoka, Japan October 1998, UNCHS 2000.

capacity and capability and access finances to deliver and maintain social and physical infrastructure.

3. STAKEHOLDERS ANALYSIS

3.1 The BCCI (now Infaq) Foundation and the Orangi Pilot Project Institutions

The OPP was established as a result of an understanding between Aga Hasan Abidi, the President of the BCCI Foundation and Akhtar Hameed Khan, a renowned Pakistani social scientist. Both Agha Hasan Abidi and Akhtar Hemeed Khan are dead. However, Akhtar Hameed Khan has left behind numerous reports and papers on the OPP institutions and has also been interviewed by the author of this study on numerous occasions.

In 1979, Agha Hasan Abidi wanted the Foundation to involve itself in "social welfare" work in Orangi. The purpose was to help refugees from Bangladesh who had settled in the township. He approached Dr. Akhtar Hameed Khan to undertake this work. Dr. Khan informed Aga Hasan Abidi that he was against the conventional "social welfare" model of development and also against working for a particular ethnic community. However, he said that he would be willing to undertake the development of a research project aimed at tackling the problems of Orangi and its residents and extension through promoting community organisations. Aga Hasan Abidi agreed to this proposal and in February 1980 the OPP was created.

Akhtar Hameed Khan was the author of the internationally acclaimed Comilla Project in East Pakistan (now Bangladesh). The Project was a rural development project, unlike the OPP. In addition, he had been a teacher of development administration in various First World universities and was well know for innovations in whatever he undertook. With this background, he brought to the OPP a wealth of experience and ideas that had been tested over time. Akhtar Hameed Khan was an austere individual, very much against the culture of affluence of the Pakistani bureaucracy and the elite. These qualities were to determine the organisational culture of the OPP institutions and their methodology. Even to this day, the OPP institutions follow the guidelines he had set and this differentiates them and their partners from the normal NGO culture in Pakistan (see **Box 3.1: The Organisational Culture of the OPP).**

Box – 3.1: The Organisational Culture of the OPP

It would not be out of place to see how Akhtar Hameed Khan's upbringing and education, his knowledge of history and current affairs, and his relentless search for truth and for a meaningful role for himself in this age of transition, have affected the methodology and culture of the projects that he has initiated or has been associated with.

There is an austerity and frugality in the manner in which the project offices and programmes are run. This austerity and frugality is visible in the lifestyle or Akhtar Hameed Khan himself, and thus no one can accuse the director of hypocrisy, as so often happens in projects that try to be austere and frugal. In addition, Akhtar Hameed Khan has not moved away from the fundamental religious, ethical, and social traditions of Indo-Muslim culture, and these traditions are very much a part of the cultural and mental makeup of the poor communities that his development projects work with. For these reasons, Akhtar Hameed Khan has no difficulty in dealing with the working classes and they have no difficulty in identifying themselves with him, even though he belongs to a different 'class'. He and they relate to the same concepts, use the same vocabulary, and have the same values (or at least respect for the same values). He understands their minds, their relationships with each other, and the historic process that has determined them. In addition, he understands their relationship with the contemporary world, for he understands not only them, but the contemporary world as well. Another aspect of Akhtar Hameed Khan's

work is determined by his views that we live in a period of transition, and that the processes and actors of social and economic change have to be supported and institutions developed not only to sustain, but also to consolidate, this change.

Akhtar Hameed Khan has always emphasised the importance of keeping detailed accounts. This is something he does meticulously and very proudly shows to visitors. According to him accounts not only establish accountability but also describe the project better than any other documentation. He often says that he learnt the importance of account-keeping from his British teachers. However, in the Indian tradition, his mother must certainly have kept *pai pai ka hisab* (account of every penny) of house-keeping money and perhaps this passion is also rooted in his early upbringing.

Source: Hasan A, Akhtar Hameed Khan & the OPP, City Press Karachi, 1999

The directions that the OPP was to take are clearly spelt out by Akhtar Hameed Khan in his "A Note on Welfare Work", written in February 1980[59]. In a way, the “Note” also defines the research and extension method. In this note, Akhtar Hameed Khan states "We are all living through a period of social dislocation. Where people have been up-rooted from their old familiar environments, this dislocation is especially acute. They have to re-establish a sense of belonging, community feeling and the conventions of mutual help and cooperative action. This can be done chiefly through the creation of local level social and economic organisations. Without these organisations, chaos and confusion will prevail. On the other hand, if social and economic organisations grow and become strong, services and material conditions, sanitation, schools, clinics, training and employment, will also begin to improve.” He further says, "It must be admitted that a blueprint is not available for immediate implementation, although many instructive models do exist in other countries. Those who want to go beyond the conventional ways should patiently go through the process of investigation, local consultation, experiment and evaluation.” And again, "The development of social and economic organisations can not be done quickly. Undue haste in this case will surely result in waste. Enough time should be spent on careful investigation of and acquaintance with the local people, their conditions and institutions. A rough timetable may be suggested: several months' preliminary plan for the first year, followed by an evaluation based on the analysis of detailed documentation. The process to be repeated till the emergence of a successful pattern". In addition, the note says that two fundamental principles should be followed. One, the avoidance of any political or sectarian bias; and two, the observance of a populist point of view and the preference for the needs of the common people.

The understanding between Akhtar Hameed Khan and Aga Hasan Abidi, on the basis of which the former became the director of the OPP, reflects the concerns and considerations detailed in the "A Note on Welfare Work". The Orangi Pilot Project would have no targets; it would have no timetable; and Akhtar Hameed Khan would be his own master. However, he would give detailed accounts to the BCCI Foundation along with a quarterly progress report. In addition, the project would follow the "research and extension" method which meant that first the OPP would thoroughly analyse the problems of Orangi and the popular methods of solving them; and then, it would try to develop, through social-cum-technical research, a better package of advice and offer it to the people. This understanding has been followed scrupulously on both sides.

Thus, the OPP institutions from the very beginning considered themselves to be research institutions whose objective was to analyse the outstanding problems of Orangi and then, through prolonged action research and extension education, to discover viable solutions. The

[59]. Edited by Mustafa S, Orangi Pilot Project Progress Reports: April 1980 – June 1983, OPP 1983.

institutions do not carry out development work but promote community organisations and cooperative action, and provide technical support to such initiatives. In the process they also seek to overcome most of the constraints government agencies face in upgrading low income informal settlements and dealing with poverty issues. The OPP-RTI has followed the founding principles of the OPP and continues to do so. It is perhaps important to also mention the views of Akhtar Hameed Khan on development models and the role of professionals since the present OPP-RTI director, Perween Rahman, emphasises them in the orientations on the OPP-RTI.

Based on Akhtar Hameed Khan's thinking, the OPP-RTI feels that the function of NGOs and pilot projects should be to develop strategies that can be integrated into the planning mechanizisms of the government. This is because the scale of the problem is far too large to be tackled without effective government participation. However, for this integration to become possible, there are three pre-requisites. These are: one, the models developed should overcome the constraints faced by government agencies in the rehabilitation of *katchi abadis* (or for other development programmes) without requiring major changes in their structure and or the development and imposition of any radical legislature. Two, overheads, staff salaries and related costs, should be in keeping with government expenditure patterns and regulations and the strategy should respect established state procedures. Three, proper documentation of the processes of developing the model, the creation of a demonstration area and effective training material have to be created, without which replication is difficult, if not impossible.

The OPP-RTI has followed these "pre-requisites" scrupulously and as a result its work is documented by 89 progress reports which read like a story book; hundreds of case studies, monographs, extension pamphlets and posters; and profiles of activists and lane managers. In addition, a large number of books have been published on the project and thousands of technical reports, maps and land-use plans for the areas in which the OPP-RTI is working have been developed.

In the opinion of Akhtar Hameed Khan, most programmes developed for the poor in the Third World fail because they are designed by professionals who belong to the upper classes and are not fully conversant with the sociology, economics and culture of low income communities or the causes of conditions in low income settlements. On the other hand, the informal sector, which increasingly caters to the needs of the urban poor in Third World countries, and the urban poor themselves, do not have access to technical research and advice that qualified professionals can give. Subsequently, the development they bring about is substandard and fails to make use of the full potential of informal sector operators and low income communities. Therefore, an arrangement has to be made and institutionalised to enable effective interaction between qualified professionals and research institutions on the one hand, and the informal sector and low income communities on the other. The OPP feels that it has succeeded in creating such an arrangement in its set up.

How the Infaq Foundation Views the OPP-RTI: The Infaq Foundation has been supporting the OPP and later on the independent OPP institutions. Its largest funding has been for the OPP-RTI. According to Shoail Kazilbash, the Secretary of the Infaq Foundation, they consider the OPP-RTI (along with the other OPP institutions) to be the most successful development project that the Foundation has supported[60]. They have read the reports produced by the OPP institutions, have raised certain queries regarding impact and the audited accounts but has never interfered in the functioning of the organisation. The agreement with Akhtar Hameed Khan has been continued after his death 1999. However, the Infaq now wishes to phase out its

[60]. At a meeting at the Infar Foundation offices, July 2002.

funding for the OPP-RTI. Last year, it reduced this funding by 50 per cent. The reason given for this is that the OPP-RTI is now successfully accessing funds from other sources and has also developed a fairly large endowment. The Foundation feels that the OPP-RTI has "grown up" and can stand on its own feet. Mr. Kazilbash emphasises that the establishment of the project was very much because of a personal understanding between an eminent Pakistani banker and an eminent social scientist[61].

The Other OPP Institutions and the OPP-RTI: The OCT and the KHASDA are the two other OPP institutions who have links with the OPP-RTI. The OCT provides micro credit to Orangi residents and NGOs and CBOs working in other urban and rural areas of Pakistan. KHASDA on the other hand operates a health programme in the Orangi *katchi abadis*. The programmes of these two organisations are summarised in **Box 3.2: The OCT and KHASDA Programmes**. In addition, the reasoning behind the micro credit programme and its evolution is given in **Appendix 9: The Logic and Evolution of the OCT's Micro Credit Programme**.

Box – 3.2: The OCT and KHSADA Programmes

According to the Karachi Development Plan 2000, 75 per cent of Karachi's labour force is employed in the informal sector. The major problem of this informal sector is that it has no access to credit. Credit from the informal market carries an interest rate of 8 to 12 per cent per month. OCT's estimates that there are over 23,000 small businesses in Orangi employing more than 120,000 persons.

The OCT's micro credit programme lends to people already running businesses. It also considers lending to people who wish to establish new business provided they are employed in those businesses. So far, 6,921 units have benefited from the OCT programme and Rs 133.944 million (US$ 2.232 million) have been disbursed. Recovery rate is 92.34 per cent. Mark up recovered at 18 per cent per year is Rs 24 million (US$ 0.4 million). The Programme has been replicated by 38 NGOs and CBOs outside of Karachi. The OCT has provided these organisations with a credit line and training.

To begin the micro credit project the OCT pledged Rs one million (US$ 0.016 million) to the National Bank of Pakistan Orangi Branch to obtain over draft facilities and issued loans from the over draft and deposited recovered instalments back into the account. Annual grants for overheads and donations for revolving loan funds followed, which have made OCT less dependent on bank over drafts. The successful experience of the OCT in micro credit lending has led the commercial banks to initiate micro credit loan programmes with the First Women Bank taking the lead.

KHASDA's health programme initially consisted of creating a women's organisation in lanes that had built their sewerage system. The women's lane organisation was visited by a mobile team every week for a period of six months after which the visits were phased out. The mobile team advised the women's organisation on the causes and prevention of common Orangi diseases. It also arranged visits by government agencies to the lane for immunisation. In addition, it introduced population planning concepts and supplies (the supplies were left with the manager of the lane organisation who sold them to lane residents) and gave advice on nutrition, child-care and kitchen gardening. However, the programme would only reach 3,000 families in which 90 per cent of children were immunised and 44 per cent couples adopted family planning. Surveys show a marked decreased in infant mortality and morbidity.

The programme was far too expensive to expand to all of Orangi and therefore, not sustainable or replicable by government. As such, it was modified. A survey of Orangi was carried out and it was discovered that there were 742 private clinics in Orangi. In addition, there were traditional birth attendants (TBAs) as well. The present programme consists in training TBAs (377 have been trained) and vaccinators (148 have been trained) from the community. An extension programme has been initiated with the private clinics who are encouraged to employ the TBAs and vaccinators. Links between the

61. Ibid.

government's health department and agencies and the Orangi clinics have been established though KHASDA. The clinics were unaware of government support programmes and these programmes before had only targeted CBOs and NGOs (many of whom had no experience of health issues). As a result of the programme, 102 clinics now receive vaccines and 124 clinics receive family planning supplies. These clinics now employ the trained TBAs and vaccinators. The clinics are very supportive of the new programme.

The new health programme seeks to anchor itself in the upgraded Orangi clinics and in Orangi schools where health education is being introduced. An external evaluation of the Programme is yet to take place.

Source: Extracted by the author from OPP related publications.

Anwar Rashid is the Director of the OCT. He works very closely with the OPP-RTI. He is also the Vice Chairman of the OPP-RTI Board. He explains that the OPP-RTI and the OCT coordinate their programmes. Very often the credit programme prepares the ground with NGOs for the initiation of the OPP-RTI water and sanitation programmes, especially outside of Karachi. Some times, the reverse also happens. The OCT also gives credit to "education entrepreneurs" and schools that are part of the OPP-RTI education programme. NGOs and activists for the OCT credit programme are given training and orientation through a collaboration between the OPP-RTI and the OCT. Anwar Rashid feels that without the OPP-RTI's involvement, the nature of OCT's work will have to undergo a change and would be less effective[62].

Dr. Shamim Zainuddin is the Director of KHASDA. She is also a member of the Board of the OPP-RTI. She feels that the sanitation programme of the OPP-RTI and her preventive health programme are closely linked. However, she has her own training courses and regrets that the relationship between the two organisations is not as close as it should be. KHASDA is housed in the premises of the OPP-RTI[63].

The OPP-RTI at Present: The Director of the OPP-RTI identifies four main directions for the organisation. One, it should continue to improve conditions in Orangi by supporting community organisations and the Orangi UCs. Two, to expand the project to other areas of Pakistan through training local NGOs and CBOs and arranging small grants for them, for replicating the OPP-RTI programmes. Three, to develop city level plans for Karachi and to have them accepted by the city government and/or town councils and UCs. This also means creating a network of NGOs, CBOs, concerned citizens, academia and the media to push for the plans. And four, to have the OPP models accepted at the national policy level[64].

How strong a stakeholder the OPP-RTI is can be seen from the nature of its organisation and its relationship to academic institutions and development and policy making related government organisations and NGOs. Perween Rahman, the Director, joined the organisation in 1983, immediately after her graduation. Architect Salim Aleemuddin, the Joint Director Sanitation, also joined after his graduation in 1989 as did architect Rabia Siddiqui who runs the Youth Training Programme (YTP) and the NGO-CBO support programme. These are the only three staff members of the OPP-RTI who are from outside of Orangi. Salma Mir is in-charge of the education programme. She has an MA in Islamic Studies from Karachi University. In addition, there are two social organisers who have both also become technical persons because of working with the OPP-RTI and later through short courses at a polytechnic. They have been

62. Conversations of the author with Anwar Rashid, February 2003.
63. Conversations of the author with Dr. Shamim Zainuddin, February 2003.
64. Discussion with Parween Rahmen, December 2002.

working with the OPP-RTI since 1984 and were trained by OPP-RTI's senior social organisers, one of whom is dead and the other is providing support to OPP-RTI replications projects in the Punjab. These social organisers are supported by three junior social organisers who are also being built up as technicians. In addition, there is a drafting team of three persons who acquired their skills from the YTP. There is a librarian, an IT and statistics person and a person in-charge of computers. This team of 15 persons is supported at any time by about 15 persons working on physical surveying and documentation under the YTP of the OPP-RTI and by a senior external consultant. All the members of the OPP-RTI staff, except the architects, have been trained as a result of their association with the OPP-RTI. The architects as well have developed their community development related skills as a result of working in Orangi.

The major problem with the OPP-RTI is that it increasingly requires qualified staff, consisting of architects and graduates who can document its work in English. Due to low salaries (they are the same as in government offices), such staff is difficult to find and as such the OPP-RTI has to depend on short term interns, of which there is no shortage. For the other staff, there are a lot of candidates from Orangi and they are being created by the OPP-RTI's training programmes, not only for the OPP-RTI but also for the other OPP institutions and the Orangi community organisations whom the OPP-RTI is supporting.

The OPP-RTI has become a national institution and its advice is sought by most task forces on development issues. Its models are being replicated by many government agencies in three of the four provinces of Pakistan and by NGOs and CBOs in all the four provinces. Its staff teaches at relevant academic institutions in Karachi and at the National Institute of Public Administration. It has its own building whose construction was funded by the government of Sindh and USAID.

3.2 The Orangi Communities

The Orangi communities differ considerably from each other. However, all the people interviewed for this study seem to suggest that they can be divided into three broad categories. One, those communities that are living in areas where settlement took place between 1965 and 1980. These are the most developed areas. Community organisations do not have the important role they had in development at the earlier stages of the settlement process. Two, those communities that are living in areas where settlement took place between 1980 and 1995. These areas are in the process of consolidating and community organisations are playing an important role in development. And three, communities living in areas where settlement began after 1995 and is still in the process of taking place. These areas are not fully inhabited and lack social and physical infrastructure. Community organisations here are weak and still dominated by the developers who created these settlements. It is generally agreed by the persons interviewed that the majority (well over 60 per cent) of Orangi communities belong to the second category. The OPP-RTI staff also feels that almost all of its current work is with these communities since they are in the process of consolidating. OPP-RTI work with the first category has slowly declined as these communities as these communities have developed their own independent NGOs and CBOs although contacts and joint efforts to improve social and physical conditions remain.

A typical Orangi settlement which was developed between 1980 and 1995 is Ghaziabad. It covers an area of 61.5 hectares and contains 3,336 houses. It has a population of 31,692[65]. It is

[65]. Interviews of Shamsuddin Sahib and information supplied by OPP-RTI Director, Parween Rehman, December 2002.

a *katchi abadi* and the settlement started in 1981 as an illegal subdivision (ISD) settlement. The results of surveys carried out in Ghaziabad in July 2002 are given below[66].

90 per cent of the households are patriarchal. Average household income is Rs 5,250 (US$ 87.5) per month. The highest income level is Rs 28,000 (US$ 466.66) per month and the lowest is Rs 1,500 (US$ 25) per month. Average household size is 9.5. Crude birth rate is 40.8 per 1,000 population.

All of the houses surveyed had managed to acquire approval from the KMC for leasing their property but have not yet applied for lease due to lack of finances. There are certain houses that are on land designated for parks or mosques or other public facilities according to the KMC's upgrading plan. These have received threats of being removed despite the fact that they have electricity and gas supplied by the state and have been here for more than 15 years. Only 10 per cent of the houses are on rent.

An analysis of the survey revealed that people generally send all their children to school at the primary level. The number of children going to school after class six drops a little usually due to monetary reasons and younger children in line for going to school. About 20 per cent manage to finish high school and then stop studying. The men then start to look for jobs due to financial problems. Very few go ahead for their Intermediate and Bachelors and these very few are usually females. Thus it was noticed that in many households wives were more educated than their men. 73 per cent of the population above 10 years of age is literate.

An average constructed area of a house is 33 M2 and therefore the mean floor area per person is 3.7 M2.

Water is provided by tankers. The cost of each tanker is about Rs 200 to Rs 250 (US$ 3.33 to 4.16). It contains 11,250 litres of water. This means that these households spend about Rs 900 (US$ 15) per month on water as compared to Rs 300 (US$ 5) per month paid by middle income households in planned areas.

Most of the houses have acquired legal electricity connections in the past two years due to their own efforts and struggle. The monthly bills range from about Rs 300 to Rs 400 (US$ 5 to 6.67) average. In the case of middle-middle income households in planned areas the average bill is between Rs 1,500 and Rs 2,000 (US$ 25 and US$ 33.33) per month.

Gas lines for domestic consumption have been put in the past year. Bills come to about Rs 150 to Rs 200 (US$ 2.50 to 3.33) per month. A few houses still use gas cylinders, the cost of one cylinder being Rs 400 (US$ 6.67). Cylinders are more expensive but they use them because they cannot afford the cost of a connection.

Most people commute to work by bus if they need to go far. However, about 50 per cent of working people living in Ghaziabad are craftsmen and have home enterprises where they make textile and leather items on contract. Those who commute spend about Rs 5 to 7 (US$ 0.80 to 0.11) per trip or Rs 300 to Rs 420 (US$ 5 to 7) per month on transportation.

Money for house building has come from friends and relatives; savings; sale of valuables (usually women's ornaments); *bisi* (unofficial community saving schemes); or as a loan of

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66. Hasan A and Mohib M, Reporting on Slums: A Case Study of Karachi, Pakistan, prepared for the DPU, University College London, July 2002.

materials and cash from the *thalla*; or as a combination of all some of these sources. In all the houses interviewed the *thalla* has played an important role as a supplier of credit, materials and technical and design advice.

The survey revealed that the most common diseases in Ghaziabad were water related, especially among children. These include Diarrhoea, Malaria, dehydration, and dingo. Less rare are measles among children and high blood pressure among the grown-ups.

On average people spend about Rs 50 to Rs 80 (US$ 0.83 to 1.33) per person per month in Ghaziabad on health. The private dispensary in Ghaziabad charges Rs 20 to Rs 25 (US$ 0.33 to 0.42) per visit with the cost of medicine varies according to the nature and intensity of the disease. The city wide average doctor's fee is Rs 150 (US$ 2.50). The people from this particular *abadi* have never really tested for HIV/AIDS, and never heard of any such incidence within their community.

People of Ghaziabad are unable to get jobs in industries easily because the industrial areas are far away from them and they have to travel to them by bus. Transport strikes are common in Karachi, sometimes twice a month. This makes them miss their work which employers do not like. Single men or those without families coming from outside the city live within the factories or very close by and are given preference to jobs since they come to work on strikes and can work longer hours.

In 1996, a series of violent robberies took place in Ghaziabad. People got scared, the women felt unsafe. The police was not helpful. So the community developed a community policing system which was able to prevent violent robberies. Subsequently, peace returned and the system fizzled out but now violence has returned and women have started to feel unsafe again and so young girls are not allowed out of the house unless absolutely necessary. Typical expenditure of a household is given in Table 3.1 below.

Table - 3.1

Expenditure pattern for sample households

	Percentage
Food	58.3
Clothing	7.9
Rent	13.1
Transport	6.3
Remittances	1.0
Recreation	1.5
Others	11.9
Total	100

On average, a household of 7 to 8 individuals requires about Rs 6,000 (US$ 100) for their monthly household expenditure. 90 per cent of the households put a certain amount of money regularly every month into a *bisi* committee and receive a lump sum at their periodic turns. Orangi Charitable Trust (OCT), an OPP institution gives credit to micro enterprises and for the upgrading of private schools. Banks are not used by people living in Ghaziabad and there are none in the settlement.

The solid waste management of Ghaziabad is carried out by the UC with help from the town council. With OPP-RTI's involvement internal sanitation has been developed and external

sanitation consisting of secondary sewers has been developed through a ADB funded KMC project for Orangi. There is no primary infrastructure in place and the secondary sewers discharge into the natural drainage system. Electricity has also been acquired along with gas. 90 per cent of the houses in Ghaziabad are of un-plastered concrete blocks with tin roofs.

The people of Ghaziabad have had to struggle over a long period of time for acquiring the right of tenure (regularisation has not yet taken place but the areas has been earmarked for it), water, sanitation, electricity, education and open areas. This struggle has been waged by the activists of the area through their organisation, the Ghaziabad Falahi Committee (GFC). The GFC has been supported by the OPP-RTI since 1994. The story of the GFC is very similar to the story of many Orangi CBOs that have worked with or have been created through interaction with the OPP-RTI. The GFC began its work in 1991 with attempts to include the names of the Ghaziabad residents in the voter's list for local body elections. Details of the formation and evolution of the GFC and the work it has done as explained by its activists, are given in **Appendix 10: A Case Study of the Ghaziabad Falahi Committee, Orangi Town**.

In addition to the CBOs, the OPP-RTI's sanitation work has created over 6,251 lane organisations that have built their sewage system. These organisations usually fall apart once the sanitation work has been completed. For maintenance and operation of the system, a committee is usually put in place but the O&M carried out is usually one of crisis management. However, a number of the activists involved in developing the sanitation system form CBOs to develop schools, neighbourhood solid waste management, improved water supply systems, road paving and to lobby with state agencies for external infrastructure. The OPP-RTI has helped these organisations in evolving and continues to support them technically in their work and in their negotiations with government agencies and other NGOs. There are a large number of such organisations. One such organisation is the Bright Education Society (BES) whose work is described in **Box 3.3: Citizens Education Related Initiatives in Islamia Colony** and another organisation is the Orangi Welfare Project (OWP) whose work is described in **Box 3.4: Orangi Welfare Project (OWP)**. The director of the OCT is the chairman of the Board of the BES and the president of the OWP is an employee of the OCT.

Box - 3.3: Citizen's Education Related Initiatives in Islamia Colony

Abdul Waheed Khan was concerned about the way his *mohalla* (neighbourhood), streets and area looked following the rains each year, when Islamia Colony No. 2 in Qasba Township, became a filthy inundated area, unpassable and inhospitable for its residents. A visit to Orangi Town revealed to him the extent of cleanliness and orderliness that could be maintained in a low income community. Waheed Khan was told that much of what he saw and appreciated in Orangi was a result of the work of the people themselves with the technical help and managerial guidance of the OPP. This was 1994.

Since then, with the help of the OPP-RTI, and with community finance, nearly 95 per cent of the streets in Waheed's area have been paved, sewerage lines laid and there has been great improvement in the appearance of the area. The Society which Waheed Khan, his colleague Muhammad Lateef and other residents of the area formed for development purposes, believes that its greatest achievement is the setting up of a school in their area. This school was set up by Waheed (with Lateef's collaboration), initially in his own house, with a loan of Rs 1,300 (US$ 21.66) from the OPP-RTI.

In the beginning there were no students, so Waheed asked the children of his extended family to come to school, and they did. This resulted in other children also starting to attend the school, and the number soon rose to 45. Soon the space for the school became insufficient and new premises had to be located. This was a costly matter and Waheed had to raise the fees charged by the school to ensure that they could have appropriate accommodation for the new premises. To his surprise, the increase in the school fee, rather than reducing enrolment, increased it considerably.

The school is run by the Bright School Education Society, which was established in October 1996 and has a committee of seven. OPP institutions helped this Society in its early years with advice and when the Society required land to build a school, Dr. Akhtar Hameed Khan, played a pivotal role and requested the SKAA to provide land where the school could be housed. The acquisition of a plot by the Society created numerous problems. The land grabbers of the area asked Waheed to turn the plot into small lots in partnership with them and sell them. When Waheed refused they told the community that Waheed had no intention of building a school but was going to sell the land. This divided the community and turned a number of persons against Waheed. However, when this did not deter Waheed, Lateef and their partners from their objective, the land grabbers, who are influential persons in the area, had Waheed arrested and took over the plot. The matter was settled in Waheed's favour with the intervention of the DC, but after construction started, Waheed was arrested again as the police wanted a share of the construction cost. Again, the local administration, through the lobbying by Akhtar Hameed Khan, had to intervene to get Waheed released. Construction was finally carried out under police protection.

The original school was built with the help of donations from the community and from loans. It had four *pucca* (permanent) and four *katcha* (temporary) rooms where 250 children studied. The Bright School Education Society has also started a health programme, where *dais* (traditional birth attendants) have been trained and a maternity home established by the Society. Polio vaccine has also been provided to the children of the area. In addition, a savings and loan scheme has also been started by the Society with assistance from OPP institutions.

The expansion of the school attracted attention of local philanthropists and donor agencies. A local foundation was provided funds for a proper school building on the site of the school. The old school, except for one class room, has been demolished and replaced by a two-storey modern well-finished building containing 18 class rooms, administration offices and a hall. The Principal Consultant of the OPP-RTI designed the school.

The Society has initiated other programmes as well with support from the Trust for Voluntary Organisation (TVO), a Pakistan charity and the European Economic Fund. These are an informal education programme for working girls. The girls are aged from 8 to 22 years. 18 girls are enrolled in this programme and a teacher's training programme for this activity.

With support of the Aga Khan Medical University's Institute of Education Development, a training for master trainers for training teachers has also been initiated. 21 master trainers have been trained and all of them are from the working class neighbourhoods of SITE Town, which borders on Orangi Town and is for the most part an extension of its *katchi abadis*. The master training programmes are include programmes for school management and were held at the OPP-RTI premises. As a result, these trainers have trained over 300 teachers and the OPP-RTI donation for this programme was Rs 12,000 (US$ 200). 30 schools have now joined with Society to form Friend of Bright to work together for the development of the education sector in SITE and Orangi Towns as part of the OPP-RTI education programme.

Source: Interviews with Waheed Khan and Muhammad Lateef for the book "Working with Communities", City Press Karachi, 2001 and for this study, March 2003.

Box – 3.4: Orangi Welfare Project (OWP)

Allauddin is a resident of Ali Nagar in Orangi Township. Ali Nagar contains about 300 houses. In 1993, Allauddin joined the OCT as a social organiser. After working with Dr. Akhtar Hameed Khan, he was motivated to organise development related work in Ali Nagar. In 1997, he formed the Orangi Welfare Project (OWP) and registered it as a trust with eight other residents of his area. A meeting was held in Ali Nagar to which all the households were invited. They decided that their first priority was a school.

Allauddin had a 400 square yard plot in Ali Nagar which he offered to the school till such time as the school could pay for it or acquire other premises. The OCT provided a grant of Rs 5,900 (US$ 98.33) for blackboard and *darris.* Another grant of Rs 30,000 (US$ 500) was provided for building a room and a loan of Rs 20,000 (US$ 333.33) was given by the OCT for providing a roof to the room. The loan has been repaid. 200 students now study in the school and pay a fee of Rs 50 to 60 (US$ 0.83 to US$ 1) per month. The school has classes from KG to Class seven.

The next priorities of OWP were water, sewerage and solid waste. They contacted the administrator of their DMC and came to an understanding that there would be a partnership between the DMC and the OWP on the basis of the "internal-external" concept and as a result a *misali illaqa* or exemplary area would be developed in Ali Nagar. This decision and the collaboration of the DMC has led to the creation of a solid waste management programme whereby solid waste is collected from the homes and taken to the neighbourhood dump by the community, from where local government picks it up. The OWP has another programme in the offing. It is going to charge Rs 25 (US$ 0.41) per month per house for picking up waste from the homes. However, the households will have to separate the waste between organic and inorganic and put them in two separate bags. The organic waste will be turned into compost near the open *nalla* (and subsequently sold) whereas the inorganic waste will be collected and sold to recyclers. As such the programme with generate money for the community. The residents of Ali Nagar are enthusiastic about this new programme.

The OWP has also repaired the sewage leakages by collecting Rs 15 per house per month as donations. This money is also used for tree plantation and for paying the telephone bill of its office which is located in the school building. Collaboration with the local government has also led to linking up Ali Nagar's water supply system with a water main. Meanwhile, OWP has repaired leakages in the system through funds from the residents.

The OWP has removed all illegal electricity connections in its area and now everyone pays for electricity. A tree plantation programme has also been initiated whereby over 300 trees have been planted and are protected. Street lights have also been provided by the local government as part of the bargain.

Neighbouring settlements want to be a part of the OWP work. However, the OWP has decided not to expand its area but to encourage other areas to set up similar organisations. It has offered to be the training and demonstration ground for such initiatives. Already in three neighbouring areas this process has begun.

The work of the OWP received a considerable push after it organised a meeting in which it initiated an award to those government officers and heads of department who had collaborated with it. The award is called "Akhtar Hameed Khan Memorial Award" and will be given yearly. The officials that received the award cherish it considerably and are proud of it. Meanwhile, the OWP has itself received an award from Environmental Protection Agency of the Government of Sindh for having improved environmental conditions in Ali Nagar and two neighbouring settlements.

Source: Interviews of the author with Allauddin Sahib for the book Working With Communities, City Press Karachi, 2001

The Orangi communities and the activists of the CBOs that have emerged from them, regularly visit the OPP-RTI office, attend the lecture series arranged by the OPP-RTI, participate in the OPP-RTI's CBO-NGO project and seek OPP-RTI advice and guidance on most of what they undertake.

3.3 The Orangi Union Councils

The Orangi UCs came into being as a result of the government's LCGO 2001 and the elections of the same year. The UCs consist of the *nazim* and *naib nazim* and 17 councillors each of which 33 per cent are women. A junior government official has been appointed as secretary to the each UC and a small administrative budget has been assigned to them. According to Dr. Skaheel[67], who is the *Nazim* of UC 6 Orangi Town and a medical doctor, the Orangi UCs had no maps of their area, no details of existing social and/or physical infrastructure, no expertise to plan or to scientifically assess the needs of the UC population and also no vision as to how to develop the UC so that it could fulfil the functions assigned to it under law. As a result, the UC had to depend entirely on the expertise available with the town council and since the town council could not service the needs of the UC, there was tension between the town and the UC. Dr. Shakeel says that under the old system it was different. The area of his UC was governed by a distant District Municipal Council (West) and so peoples' expectations were not high. However, with the establishment of a representative administrative set-up in their neighbourhoods, the UC population is constantly pressurising the *nazim*, *naib nazim* and the councillors with their demands.

A local CBO of UC 6 has supported Dr. Shakeel and his group in the election process. They had also introduced him to the OPP-RTI. He was also aware of the work that the people of his UC had done on the component sharing model with the support of the OPP-RTI. Other Orangi UCs were also aware of this relationship of their communities with the OPP-RTI. As a result, meetings were held at the OPP-RTI office with the UC *nazims* and *naib nazims* and the OPP-RTI undertook the responsibility of preparing UC handbooks for the Orangi UCs. These handbooks consist of maps of every area of the UC and identify existing physical infrastructure along with missing infrastructure and areas where there are functional problems with the existing infrastructure. They also identify where there are solid waste dumps and give details of the problems of waste collection and disposal. Social and economic infrastructure is also identified along with details of schools, clinics micro enterprises and open plots and parks. These handbooks were prepared by the YTP under the supervision of OPP-RTI Joint Director Architect Salim Aleemuddin. Dr. Shakeel says that his councillors and the local CBOs helped in the preparation of these handbooks. He says that in the process they learnt a lot about their settlement and its problems and it completely changed their perceptions regarding the needs of the UC. As a result of the preparation of the handbooks, and acceptance of the OPP-RTI external-internal concept, they can now plan for their UC in a more scientific manner and make estimates that are a fraction of the estimates prepared by the town council engineers. What has exited Dr. Shakeel is that young people from his area are working with the YTP of the OPP-RTI and can be of help to his UC in the future. Now, he has to request the OPP-RTI to plan and estimate for him. See **Box 3.5: UC 6 and OPP-RTI Cooperation**.

Box – 3.5: Union Council 6 and OPP-RTI Cooperation

UC-6 comprises of 722 lanes, and 11,239 houses. In 545 lanes sewers exist, 529 lane sewers laid by people on self help and 16 lane sewers laid by the government.

There is close coordination with the UC *Nazim* and area organizations. Work has been organized to maintain quality and focus on external development. Development is based on the UC plan book and component sharing concept. UC *Nazim*, as an area activist earlier undertook self help sewer work in his lane as well participated in tree plantation and solid waste disposal programs with his CBO.

67. Authors interview with Dr. Shakeel, April 2003.

External Sanitation: On request this quarter secondary sewers part of external development were identified and surveyed for the UC, plans and estimates for 4 secondary sewers were provided to the *Nazim*. Work on total 4 secondary sewers 1638 rft. was completed by the UC. OPP-RTI provided on site supervision. Designs for rectification of KMC-ADB trunk sewers in Gulshan-e-Behar and Gulshan-e-Zia were earlier provided. Work on site on these completed last quarter, the lines are functional, but need constant maintenance. Cleaning of the KMC/ADB sewers has been undertaken regularly. The *kundimen* (municipal garbage collectors) deputed to the UC by the Town have been irregular, the UC *Nazim* has hired private *kundimen* avoiding dependence on the Town. Work on the development of Ghaziabad *nalla* as covered drain (box trunk) was completed last quarter. Nazim is mobilizing govt. finances for the development of a remaining *nalla* in his UC, the Gulshan-e-Behar *nalla* 3,071 rft, of which 1500 rft. of the *nalla* was earlier desilted through the *nazim's* fund. Community members are being advised by the *nazim* to lay lane sewers on self help. A problem is the constant effort by the Town *Nazim* to bypass UC *nazim* and undertake ad-hoc development works through the councillors, going against the system laid out in the Devolution Plan. Due to this problem substandard work on 16 lane sewers was undertaken earlier. UC *Nazim* is resisting this interference, convincing the councillors to follow his plan and filing complaints with the Town *Nazim* on the substandard work. Since last quarter town supported work on lane sewers have stopped.

Solid Waste Disposal: The *nazim*, with the help of area activists has organized pickup of solid waste from the main bins. UC plan book with a map showing the disposal points has helped in organizing the work. People are responsible for disposal of solid waste from the house and lane upto the main neighbourhood bin, government picks up from the main bin. As per the new system a refuse van and 15 health workers have been deputed to the UC by the Town. This quarter too the system of pickup from the main bin functioned, there was no interference from the Town as reported earlier.

Water Supply: Last quarter repair of leakages on 150 rft main and secondary line and placement of three valves was undertaken by the UC, repair of leakages and laying of pipes in lanes is being undertaken by the people. The main problem is availability of water. The UC being at the tail end, water from an 18" dia main line is often diverted to other UCs, through unofficial connection (mostly approved by the Town *Nazim*). UC-6, together with UC-7 is lobbying with Town and City for information on the quota of water for their UCs and for fixing a meter to measure supply. Unable to get this information, effort is being made by the *nazims* for connection from an alternative source (the Hub main line).

This quarter after the visit of Managing Director KW&SB to OPP-RTI, meetings were held with officials in-charge of water supply. OPP-RTI facilitated the process of documenting and improving water supply in the UC. The *nazim*, councillors and area activists monitored the water supply to the pump house and its distribution and provided a report, including a map documenting the distributed system, to the Managing Director KW&SB. The water supply has improved, where water supply was for average one to three hours (2,50,000 gallons) every third day, it is now four to six hours (4,50,000 gallons) every third day.

Tree Plantation: Requested by area activists and *nazim*, OPP-RTI completed construction of a demonstration sewage treatment unit, so that treated sewage water can be used for plantation. Six trees along the main road were planted, use of sewage water with EM technology is being monitored. The activity is being managed by the CBO Ghaziabad Falahi Tanzeem. CBO Bilal Welfare Trust has started development of a park along the recently completed Ghaziabad drain. Work is in progress. Observing tree plantation in UC-6, survey has been completed of two settlements, the number and types of trees planted have been recorded. 512 trees exist in the lanes. These have been planted by individual houses as well as by the efforts of CBOs. Most popular tree is *Neem*. Information is being acquired on the trees requiring minimum water.

UCs in Karachi have made effort to acquire development funds directly from the city government. This quarter each UC has been sanctioned Rs 3.5 million (US$ 0.058 million), city government has also agreed to the proposal that UCs will be responsible for the process of project design, estimates, tendering and implementation. Mobilized by the *Nazim* of UC-6, *Nazims* of UC-5, 7, 8 and 12 have lately requested OPP-RTI for technical support in project design and implementation.

Source: Extracts from the OPP-RTI 92nd Progress Report, December 2002

Dr. Shakeel has a certain vision for the future. He would like his UC to have a proper technical unit that can plan projects and make estimates, and also understand and implement the OPP-RTI concept of component sharing between government agencies and communities. He feels that with OPP-RTI's help and the participation of young people from his UC in the YTP, this will be possible.

Dr. Shakeel says that previously his area was a purely working class one. However, as young educated people are increasing in number, they are going into businesses and white-collar jobs. As they improve in status, they leave the UC *katchi abadis* and move to middle class locations in the city. He would like to prevent this by providing his UC with all the facilities that middle class areas have. The leaving of educated people from his UC, he feels would socially, politically and economically impoverish his UC.

UCs from four other towns of Karachi have also requested the OPP-RTI for assisting them in the preparation of UC handbooks for their areas. Requests have also come from towns outside Karachi.

3.4 Government Agencies

Until 1991, there was no formal link between government agencies and the OPP-RTI. There was dialogue but the OPP-RTI was viewed with suspicion and its methodology was termed as impractical. However, in 1991 the then Mayor of Karachi modified the KMC's *katchi abadis* upgrading programme for Orangi (which was being funded by the ADB) to accommodate the OPP-RTI external-internal concept. After this, the OPP-RTI slowly developed working relations with local government organisations. These relations were the result of personal interest taken by certain government officials who supported the OPP-RTI work and had an element of radicalism in them. Tasnim Ahmed Siddiqui who became the Director of SKAA in 1990 adopted the OPP-RTI model for *katchi abadi* upgrading. OPP-RTI became consultant to SKAA and have trained SKAA's staff in the replication process for the OPP-RTI model and continues to support SKAA work. Tasnim Siddiqui has always had trouble with the establishment he works for. As a punishment he has often been made Officer on Special Duty (OSD) which means you have no job to do. On one of his OSD's stints he worked with the OPP-RTI in 1987 and had been associated with it since then. He is also the author of the Incremental Housing Schemes promoted by the Sindh government in association with an NGO, Saiban, where communities are given plots of land and they built their infrastructure on the OPP-RTI model. The OPP-RTI is consultant and trainer to the Incremental Housing Schemes. In both cases, a younger generation of government planners have been trained.

A number of government officials and engineers who have work with the OPP-RTI on the KMC-ADB funded project in Orangi have become supporters of the OPP-RTI methodology. Sulaiman Memon, who was the Superintendent Engineer in-charge of the ADB project says that he viewed the OPP-RTI with suspicion when the project began. He was sure that the project would be a disaster but over a period of time he became a supporter. Shahid Saleem, now Deputy Managing Director of the Planning and Development Wing of the KW&SB, was always a believer in community participation and is currently promoting the OPP-RTI concept as he believes that it is the only financial and technical option available to the city[68].

[68]. Conversations with Shahid Saleem, December 2002.

Since 1998, the KMC started converting the Orangi *nallas*, which are the disposal of all Orangi sewage, into box culverts on designs developed by the OPP-RTI. After the Devolution Plan 2001 the process has continued. The OPP-RTI has provided the city government Executive District Officer (EDO) with designs and estimates of four more Orangi *nallas*. *Nazims* of Orangi UCs have lobbied for the acceptance of these designs and estimates and one of them has been approved. In addition, in July 2002, Saleem Azhar, n*aib nazim* of Gulshan Town and technical advisor to the city *nazim* requested the OPP-RTI for preparing a development plan for the *nallas* of his area. The plans have been prepared and they are being implemented. Similar plans have been prepared for the n*azim* of UC 8 SITE Town. What is important here is that the local government is violating the KW&SB sewage plan that is against converting the natural drainage system into box culverts to carry both storm water and sewage. They are carrying out the OPP-RTI model which promotes the development of the natural drainage system into box culverts with treatment plants at their end.

Local government programmes in towns outside of Karachi are being supported by the OPP-RTI. One of these is the Lodhran Pilot Project (LPP) where the local government in collaboration with an NGO (trained and supported by the OPP-RTI), is implementing a water, sanitation and lane paving programme for the city of Lodhran (population 70,000) on the component sharing model. OPP-RTI's senior social organiser was transferred to Lodhran for establishing the project and has expanded it to other small towns and villages in the Punjab. OPP-RTI is responsible for the training of government engineers involved in these projects and of social organisers and technicians working with the NGOs. This training is imparted at the OPP-RTI in Karachi and/or at the OPP-RTI replication projects. Replication of the Lodhran experience is being initiated in Khairpur (population 102,188) in Sindh province and at Jaranwala (population 103,308) in the Punjab province. Recently the Punjab Katchi Abadi Directorate (PKAD) has decided to adopt the SKAA model for development in the Punjab urban areas. OPP-RTI is now the trainer of the engineers and social organisers of the PKAD and of the CBOs associated with it.

3.5 NGOs and CBOs Outside of Karachi

Nine NGOs and CBOs outside of Karachi are currently replicating the OPP-RTI water and sanitation model. These are small neighbourhood organisations run by local activists, who have slowly expanded their work to other areas. Their administrative and other overhead costs are funded by WaterAid UK on the advice and recommendation of the OPP-RTI which also monitors their work as part of their agreement with WaterAid. The technicians and social organisers of these organisations have been trained by the OPP-RTI at Orangi and on site in their project areas. They submit quarterly reports to the OPP-RTI and discuss their plans and progress regularly with the OPP-RTI staff in Karachi.

Nazir Ahmed Wattoo is the President of the Anjuman Samaji Benbood (ASB) in Faisalabad, a town of two million population in the Punjab. He has been replicating the OPP-RTI model and has reached out to over 4,500 households. His is the most developed of the OPP-RTI replication projects. He says that in spite of the fact that the ASB is now a large effective organisation, its need for the OPP-RTI has not diminished. This is not only because ASB requires WaterAid funding, but also because it requires constant dialogue so as to evolve and gain confidence. Also, the ASB wishes to transform itself into an RTI on the Orangi model. For this it will require intensive training from the OPP-RTI and a long term association. Mr. Wattoo

says that although his organisation began as a neighbourhood one, it is now interested in promoting its model throughout the Punjab[69].

Recently, a network of these organisations, the Community Development Network (CDN) has been established and is seeking a collective yearly grant and loans from the Khushali Bank so as to replace unreliable donor funding. Khushali Bank is willing to provide these funds simply because the OPP-RTI and the OCT are members of the network.

3.6 Academic Institutions

A number of Karachi academic institutions have close links with the OPP-RTI. Since 1982, the DAP (DAP) at the Dawood College has permitted its students to do their thesis on *katchi abadi* upgradation and community participation. In addition, the Dean of the Faculty of Architecture and Planning is a member of the Board of the OPP-RTI; the Principal Consultant of the OPP-RTI has been a visiting professor at the DAP at Dawood College between 1979 and 1998; and the Director of the OPP-RTI is a visiting teacher at Dawood College and also its graduate. Prof. Kausar Bashir Ahmed, previous Dean and now Professor Emeritus at the Institution, says that his vision of a socially responsive architectural education was made possible by DAP's association with OPP-RTI which continues to this day[70]. He is working on the possibility of establishing a post-graduate course on development through community participation in collaboration with the OPP-RTI.

The newly established DAP at the NED University Karachi is entirely manned by Dawood graduates. They have also established links with the OPP-RTI and their manner of teaching and their links with the *katchi abadis* of Karachi are through the OPP institutions and their work. The DAP at the Karachi University, is introducing internships for its eighth semester students. It has been decided that these internships will not only be with architectural offices but also be with the OPP-RTI. They have also started to involve OPP-RTI Principal Consultant and Director in their urban planning programmes. Similarly, the Social Works Department of the Karachi University regularly sends its students for orientation to the OPP-RTI. A number of dissertations are written on *katchi abadis* and the OPP-RTI areas are used for field work. Prof. Shahid of the Social Works Department feels that without links with the OPP institutions, the social work curriculum would simply be a theoretical one. He is anxious to develop these links further.

OPP-RTI and OCT professionals also lecture at National Institute of Public Administration (NIPA) where senior and mid-level bureaucrats are trained. The Director of the OPP-RTI is on the NIPA Governing Board. Dawood College teaches with strong links with the OPP-RTI run workshops on housing. As a result, links between the bureaucrats and the OPP-RTI have been strengthened. Almost all government functionaries supporting the work of the OPP-RTI and the OCT in an organised manner have either been associated with the OPP-RTI or have attended the NIPA courses. In the same manner, almost all professionals supporting NGO programmes in Pakistan that build on the work of communities, have been trained at the Dawood College.

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69. Authors interview with Nazir Ahmed Wattoo, March 2003.
70. Comments and discussions at the various meetings of the OPP-RTI Board.

4. PROCESS

4.1 The Beginnings

An agreement between Akhtar Hameed Khan and Agha Hasan Abidi established the OPP March in 1980. To begin with Akhtar Hameed Khan asked for a jeep, a driver and an administrative cum clerical assistant. This was given to him. He also contacted his old student and colleague, Ghulam Kibria, who had worked with him on his earlier projects and is a well-known Pakistani engineer who was also the founder Chairman of the Appropriate Technology Development Organisation (ATDO).

Akhtar Hameed Khan and his two associates started visiting Orangi Township. They started talking to shopkeepers, people in tea houses, people working in the informal industrial sector and transporters. They tried to understand the problems of the people of Orangi and to identify community and/or interest group organisations. A number of organisations were identified and discussions with them were undertaken. Once a picture of Orangi was established and a number of activists were identified, a double-storey house in the central commercial area of Orangi was taken on rent and established as the OPP office.

Dialogue with the Orangi community and interest group organisations continued. Through these dialogues it became apparent to Dr. Khan that these organisations were not interested in involving themselves in development. They were simply organisations that lobbied with political parties and the bureaucracy for patronage and for micro level improvements at the neighbourhood level through ad-hoc funding from their patrons and in the process people became dependent on them. Dr. Khan also came to the conclusion that these organisations functioned and made money through this patronage. In exchange their office bearers offered votes and support to the political parties and the local bureaucracy police station[71]. Some of the leaders told him, "Old man, why do not you get some money from somewhere and carry out developments to solve our problems"[72].

However, on the other hand, Dr. Khan also discovered that people were very anxious to improve their living conditions. They attempted to establish schools, solve their sanitation problems, establish trade and commerce and were particularly agitated about their health and physical environmental issues. Their solutions were usually substandard and fragmented because they did not have access to technical assistance, managerial guidance, credit and information regarding government support programmes. Often they were a waste of their financial resources[73].

In the process of dialogue and investigation, Akhtar Hameed Khan came a cross a number of Orangi activists who had an element of radicalism in them. Some of them had been members of political movements against exploitation and injustice. Some of them had also been involved in settling Orangi with the help of the informal developers. They were at ease in Orangi, "like fish in water", they were "uncut diamonds" and the people also knew them well[74]. Dr. Khan recruited four of these activists as social organisers of the OPP. The became his eyes and ears and arranged meetings for him in various Orangi neighbourhoods where he tried to explain that what they were doing for the improvement of their neighbourhoods could be done better with advice

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71. Edited by Mustafa S, Orangi Pilot Project Progress Reports: April 1980 – June 1983, OPP 1983.
72. Akhtar Hameed Khan in conversations with the Author.
73. Ibid.
74. Ibid.

and technical support. Everywhere he was told that he should bring money from the government and have work done for them.

However, in this process of dialogue and investigation, which lasted six months, he was able to identify the four major problems that the people of Orangi faced and the solutions of which would improve the poverty conditions in which they lived. These four issues were in order of priority, sanitation, health, education and improved incomes. He therefore decided to build programmes around them, beginning with sanitation.

As has been mentioned earlier, these programmes developed between 1980 and 1988 after which the OPP was divided into four institutions of which the OPP-RTI was one and which dealt with sanitation, housing (a spin-off of sanitation), education and research, documentation and advocacy.

4.2 The Low Cost Sanitation Programme in Orangi

When the OPP was established the lanes of Orangi were full of waste water and excreta. The more affluent residents had constructed soak pits, but most of these had filled up due to bad construction and adverse soil conditions. Dr. Khan's research clearly established that the first priority of the Orangi residents was for the development of an underground sewerage system. However, they felt that this was something that the local bodies or the KDA should give them free of cost. They also felt that the KMC and KDA provided this facility to the more affluent areas of Karachi without a charge. The Orangi leadership, which at that time consisted mainly of land-grabbers and middlemen who had helped establish the settlement, encouraged the people to think in these terms. However, people knew very well that much of their bad health conditions were because of an absence of sanitation but they did not realise the social and physical improvements that would result by the building of a sanitation system[75].

When Dr. Khan approached the KDA and KMC regarding this problem, he was informed that they did not provide anyone with a free sanitation system and that the affluent areas paid for it through a development charge which was so high that the Orangi residents could not afford to pay it. He was further informed that the KDA and KMC had no money to 'gift' a sanitation system to low income settlements. However, he was told that international loans were being arranged to finance the KAIRP under which sanitation would be provided to the residents of *katchi abadis* and its cost recovered through lease and development charges from them[76].

Dr. Khan had a good knowledge of internationally funded projects and he knew that money for the loans taken would not be repaid through the beneficiaries as had happened contineuously in the past in Pakistan. Also, the problem of *katchi abadis* was so immense (with an estimated 4, 500,000 people living in them in Karachi alone at that time) that it could not be solved through foreign loans, especially if the cost could not be recovered from the beneficiaries. In Dr. Khan's thinking, foreign debt was an important poverty indicator.

Dr. Khan then asked as to why the cost of a sanitation system was so high that the residents of *katchi abadis* would not afford it. Discussions with relevant government officials and professionals revealed that the development cost as charged by the KDA and KMC was about seven times the cost of actual labour and materials involved in constructing an underground sewerage system. Where foreign financial assistance was involved, costs went up by 30 to 50

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75. Edited by Mustafa S, Orangi Pilot Project Progress Reports: April 1980 – June 1983, OPP 1983.
76. Ibid.

per cent due to fees to foreign consultants and higher standards, and where international tenders were called, it went up by up to 250 per cent. In the end the user was being asked to pay Rs 25 (US$ 0.41) for something whose actual cost was only one rupee. These high costs, it was established, were due to high overheads, excessive profiteering by contractors, kickbacks to government officials, and fees to foreign consultants who came with the loan package. International construction tenders were one of the conditionalities of large loans and only foreign companies managed to get them and that too at very high rates. It was further established through discussions at neighbourhood meetings arranged by the OPP social organisers, that if costs could be brought down to only those of labour and materials, an underground sanitation system would perhaps be affordable to the residents of Orangi; and if money to build the system could be provided by the people before construction began, it would overcome the problems involved in acquiring and repaying loans to international agencies[77].

The methodology of the OPP's Low Cost Sanitation Programme was thus evolved to create a peoples financed, managed and constructed underground sewerage system.

Methodology of the OPP's Low Cost Sanitation Programme: Before the OPP's Low Cost Sanitation Programme started, the majority of the people of Orangi used bucket latrines which a scavenger (at Rs 15 (US$ 0.25) per month) would empty out every fourth or fifth day, very often onto the unpaved lane. The more affluent houses constructed soak pits, which filled up after a few years and did not solve the waste water problem. Some people had also laid sewerage lines from their houses to the nearest natural drain or *nalla*. These lines were usually defective, and as there was no communal effort, one found many parallel lines in one lane. However, in spite of these shortcomings this system cleared the streets of both excreta and waste water. The people also had a preference for an underground system, and the OPP felt that if the right kind of technical support and tools could be provided, and if the lane residents could be organised and trained to use them, then an underground sewerage system, financed and constructed by the people, could be developed in Orangi. The first step for providing such a support was the creation of a technical unit within the OPP. This was established. An Orangi based engineer was recruited along with a local plumber, a draftsman and a technician. Survey and levelling instruments were provided to the team.

The next step towards building up a sewerage system was the creation of community organisations. The lane, which in Orangi consists of about 20 to 30 houses, was made the unit of organisation. This was because it was a small and thus cohesive unit, and there would be no problem of mistrust involved among the residents. In addition, the traditional Orangi leadership, which functioned at a neighbourhood level, would not feel threatened if the programme was limited to one lane at a time; and at that initial stage, the OPP was not in a position to antagonise anybody. An underground sewerage system is a complex affair, and developing one lane at a time, without a master plan, was considered by planners to be an invitation to disaster[78]. How this disaster was overcome is explained subsequently in the text.

The methodology for developing lane organisations consisted of four stages. First, the OPP social organisers, who were Orangi residents and activists, would hold meetings in the lane and with the help of slides, models and pamphlets, explain the programme to the people, along with its economic and health benefits. They would explain that because of the illness of their children they spent a lot of money on medicine and doctors apart from the inconvenience and misery the

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77. Hasan A, Working with Government, City Press Karachi, 1997.

78. Hasan A, The Low Cost Sanitation Programme of the Orangi Pilot Project, paper prepared for the NGO Habitat Project of the Habitat International Council, for the International Year for the Shelterless, 1987.

illness caused. They asked them as to how many working days (and hence wages) they lost because of illness every month. And, they explained that the KDA or the KMC do not lay sewerage lines free of cost, and their charges could not be afforded by the lane residents. They also told them that it might be years before sanitation came to Orangi from government programmes[79].

The motivators would tell the people that if they formed an organisation in which the whole lane participated, elected, selected or nominated lane managers, and applied to the OPP for assistance, then the OPP would help them. In the second stage, the organisation was born and chose its lane managers who, on behalf of the lane, formally asked for assistance. In the third stage, the OPP technical staff surveyed the lane, established benchmarks, prepared plans and estimates (of both labour and materials), and handed over this data to the lane managers. Lastly, the lane managers collected the money from the people and called meetings to sort out any sociological or technical problems involved in the work. The OPP staff supervised the process. At no time, however, did the OPP handle the money of the people[80].

Very often lane residents came to the OPP and said that certain households were not willing to participate in the programme and that the OPP should help in sorting out problems with them. OPP refused and said that this was something the lane residents should work out for themselves. Dr. Khan did not want the OPP to be an arbitrator as this would weaken the community development process and the OPP would be blamed if disputes were not resolved. Most of the problems of getting people together at the lane level were related to destitute families not willing or capable to pay; different sized plots in the lane and some households felt that the larger plots should pay more; and the presence of industrial enterprises in some lanes which residents wanted removed and were not willing to make them a part of the sanitation scheme. All these problems were sorted out by the lane communities themselves. The OPP however, made case studies of these problems and their solutions, and presented them as solutions to the lanes that had similar problems. Often lanes that had problems were asked to contact lanes that had had similar problems and had solved them.

Another pattern that emerged was fairly standard in all lanes. People selected two managers and not one. One manager looked after the purchase of materials and organised the work. The other manager kept the money and accounts. The works manager was usually someone who had technical skills and spare time. The accounts manager (often an older woman) was someone people could trust. A new leadership at the lane level was taking shape.

The first lane was laid after six months of promoting the programme and it was the lane of one of the social organisers. Later, a whole neighbourhood, also that of a social organiser, came together to build their sewage system but by mid-1982 there was a lull in the programme. This was because no central supervision and controlling agency was looking after the work and people in most cases worked themselves. Therefore, the only way of guaranteeing quality of work was by educating the people. However, people who are financing and managing the work themselves cannot be forced to listen to advice and their confidence in the OPP could only develop over a "prolonged association." As such, certain substandard work was done in the lanes by the people. Also, a number of technical weaknesses in some of the OPP's advice surfaced. Many drains were clogged, some manholes (there was no standard design) were too small to be cleaned, concrete weathered badly and joints in some of the sewer pipes leaked. As a result, an evaluation of the concept, design and implementation procedures of the project

79. Ibid.
80. Ibid.

became necessary although the environmental conditions in the lanes which had built their sanitation system had improved enormously[81].

Evaluation and After: In December 1982, Akhtar Hameed Khan through Ghulam Kibria approached a Karachi architect and development consultant for advice. He studied the sanitation methodology and technology and identified certain problems and proposed solutions. One, that there was not enough water in Orangi to make a water-borne sewage system functional. He suggested the building of small inexpensive one chamber septic tanks before connecting to the sewer lines so that only water would go into the sewage system. He rejected the soak pit option because water was planned by the KMC to come to Orangi and because people were not willing to pay for anything other than an underground sewage system. Two, that the design of manholes and pipe jointing needed to be revised to make it cheaper and less dependent on skilled labour which was costly. Steel shutterings were developed for standard size manholes which were made round and cast in situ to save the cost of plaster. Three, simple rules of thumb were developed for determining gradients, pipe sizing, manhole sizes and curing procedures for concrete. Four, new tools were introduced such as a mobile steel platform for mixing concrete to prevent earth from mixing with the concrete, rope and chalk for laying out the sewage system, timber hammers for vibrating concrete in the steel manhole shutterings, and manual compactors for compacting the back-fill of excavations. Five, he suggested that the technical unit should have a qualified person in it who was capable of understanding larger social issues and making technology compatible to them. It was about this time that Architect Perween Rehman, who had just qualified, joined the OPP and subsequently took over this role. And six, he pointed out that an overall survey of Orangi was required so that locations of secondary infrastructure could be identified. Without these maps, an integrated underground sewage system could not be built[82].

The recommendations of the evaluation were carried out. A listing of the errors people themselves had made during the building their sanitation system was also made. The results of this research were taken to the people through a massive extension effort, and hundreds of meetings were held in the lanes and neighbourhoods of Orangi, pamphlets were distributed and posters were put up. As a result, the people learnt about mixing concrete and curing it, and about the proper manner of making inverts. This extension effort led to a great improvement in the standard of work, and more and more lanes applied for assistance. In addition, it also led to a major modification to conventional sanitation technology and procedures and made them compatible with the concept of a community financed and built system. It also reduced costs substantially and resulted in major technical innovations, which have been documented in OPP monographs and are discussed in Section 5 of this case study.

As the lane was the unit of organisation, initially only those lanes asked for assistance which were near a *nalla*, or those which could drain into *nallas* easily. It was feared by the OPP advisors that the programme would end here, unless lanes away from the *nallas* came together to construct secondary drains. To promote the concept of secondary drains, the OPP carried out a physical survey of Orangi. The unit of the survey was the circle or ward of each elected KMC councillor. It was decided that architecture and engineering students would carry out this survey instead of proper surveyors. The reasons for this were one; it was felt that after 30 to 40 students had moved through Orangi, talking to the people, interacting with them (as students always do) and involving them in their work, the people would understand the concept of secondary drains and Orangi would become a changed place. This happened for people

81. Hasan A, The OPP Sanitation Programme: What needs to be done, unpublished note, 1983.
82. Ibid.

interacted with the students and the concept of secondary drains registered in their minds. Two; the concept of development through community participation would go back to the professional universities and colleges, and their involvement with the OPP would grow as a result. This also happened. And three; a pool of future professionals who would subsequently be government and NGO employees or consultants and who would support the OPP concept and methodology, would be created. This has also happened[83].

The results of the survey of each circle were compiled along with literature regarding the programme, the identification and estimates of the required secondary sewers, and given to the councillor of each area. In motivation meetings the people were informed of this, and they started to pressurise their councillors to take an interest in the secondary drains. However, of the 15 Orangi councillors only two showed any interest. In the case of these two councillors, secondary sewer lines were built with KMC councillor grants-in-aid and the people linked their system to them. These areas demonstrated to the people of Orangi that by building secondary drains and connecting to them, the physical environment and health conditions could be improved. Therefore, where the councillors did not show any interest, a large number of neighbourhood lane organisations came together, collected money and asked the OPP for technical assistance for construction of secondary drains. This really meant that a confederation of lanes was created.

After the last quarter of 1984, the OPP no longer needed to motivate the people. Because of the demonstration effect, lanes organised themselves and contacted the OPP for technical assistance, and the OPP organisers increasingly found themselves involved in technical supervision rather than motivation organisation promotion. By mid 1985, the demand had increased to an extent that the OPP could not manage to service it and so it changed its approach. It started a training programme in its sanitation technology for local masons. The social organisers identified the masons who were trained at site and in the OPP office. Addresses of these masons were given to any lane or neighbourhood that applied for assistance and the lane hired one of them. In the process, the masons became the promoters of the OPP sanitation programme. But there were logistic problems of supplying tools and shuttering to such a large number of lanes. This was overcome by purchasing Suzuki pick-up vans that could transport them from one area of Orangi to another quickly. It was at this time that the social organisers started to become technicians as well and new technical staff was recruited to help them. This new technical staff became their students. By mid-1986, many lanes did not even contact the OPP but got work designed and executed by masons who had been trained through carrying out work in other lanes[84].

The average cost for a sanitary latrine in the house, the primary drain in the lane, and the secondary collector drain, in 1990 worked out to about Rs 1,000 (US$ 16.66) per household. The people found this reasonable.

The OPP Sanitation Model: Based on its work in Orangi the OPP articulated its sanitation model which it had promoted in all its replication projects and for infrastructure items other than sanitation as well. According to this model, there are four levels of a sanitation system. One, a sanitary latrine in the house; two, an underground sewer in the lane; three, a collector sewer in the neighbourhood. These three levels the OPP has called “internal” development and it has

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83. Hasan A, The Low Cost Sanitation Programme of the OPP and the Process of Change in Orangi, paper presented at the Regional Seminar on the Essence of Grassroots Participation in Human Settlements Work: An Asian perspective, Thailand February 2 – 9, 1986.

84. Hasan A, Working with Government, City Press Karachi, 1997.

demonstrated in Orangi that low income households can carry out this work with their own resources and maintain it, provided they are given technical advice and managerial guidance. Level four consists of trunk sewers and treatment plants. This communities can not build or maintain and as such it is the responsibility of the government agencies. Where a disposal point, such as an open natural drain or a municipal trunk is available, the people can undertake the "internal" development without the state carrying out "external" development. However, where no disposal point is available, the "external" development has to be done first.

In the case of Orangi, the natural drainage system was being used as trunk sewers and eventually this natural drainage system was joining the seasonal rivers (they have storm water for not more than 20 to 30 days in a year) and through them it went into the sea. As a result, a lot of criticism was heaped upon the OPP sanitation programme by professionals, government agencies and IFIs task managers. However, it was pointed to them that almost all of Karachi's sewage, even of its planned areas, also went untreated through same seasonal rivers into the sea. As one Orangi resident put it to a professional who was critical of the OPP system in a neighbourhood meeting in Orangi, "Why, is our sewage any different from theirs?"[85]. Nevertheless, the OPP planners were aware of this problem and had already decided as early as 1984 that they would try and get the natural drains converted into box trunks which would carry both sewage and rain water. They also decided that treatment plants would be required at locations where the *nallas* met the rivers and the rivers met the sea. They were aware that this called for a city level plan and could not be solved at the Orangi level.

The Four Barriers: By 1984, OPP's research and experience in Orangi had shown that there are four barriers that have to be overcome so that communities can build a self-financed and self-managed underground sanitation system. These barriers are: one, the psychological barrier: people firmly believe that developing a sewage system is the duty of government agencies and this should be given to them free of cost. Discussions and dialogues, supported by facts and figures regarding development and health, along with a vision of development which involves people can break this barrier. Two, the economic barrier: the conventional cost of building an underground sanitation system is beyond the paying capacity of low income families. By relating technical research and innovation to social reality, this cost can be reduced to affordable limits. To do this there is a need to challenge engineering standards and procedures and the conventional manner of implementation through government agencies and commercial companies. Three, the technical barrier: low income families build their homes with the advice of masons and also manage to build bucket latrines and defective soak pits. However, neither they nor their informal sector advisers possess the technical skills required for the construction of an underground sanitation system. These skills have to be provided to them and they have to be trained to use them over time. And four, the sociological barrier: construction of an underground sanitation system requires not only technical skills but also social organisation for collective action. This needs to be developed and the unit of organisation should not be so large that its members cannot trust each other.

Where a disposal point, such as an open natural drain or a municipal trunk is available, the people can undertake the "internal" development without the state carrying out "external" development. However, where no disposal point is available, the "external" development has to be done first[86].

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85. Hasan A, The Low Cost Sanitation Programme of the Orangi Pilot Project: Six Questions, paper presented at the IIED Conference on Sustainable Development, London April, 1987.

86. Hasan A, Working with Government, City Press Karachi, 1997.

The OPP-United Nations Centre for Human Settlements (UNCHS) Association: It is important to note that there was a major difference between what Dr. Khan was promoting through the sanitation programme of the OPP and conventional planning. The research and extension approach that Akhtar Hameed Khan adopted for the OPP had been applied only to rural development. NGOs, bilateral and multilateral agencies, working in the urban field in Pakistan in the early eighties, viewed this approach with skepticism, amusement, or outright hostility[87].

Ironically, the first major conflict between conventional urban planning and Akhtar Hameed Khan's research and extension approach came from within the OPP itself. This conflict is worth relating as it brings out the inadequacies and the not-too-realistic assumptions on which conventional urban planning is based.

In 1982, the UNCHS made an offer to BCCI to collaborate in the further development of the OPP. The BCCI accepted this offer and as a result an agreement was signed between the government of Pakistan, UNCHS and BCCI in June 1982. It was a three-year agreement under which the BCCI was to donate US$ two million, of which US$ one million would be handed over to UNCHS for providing the services of experts for improvement of sanitation, water drilling, public health, programme monitoring and related programmes. In addition, an experienced settlement planner would be posted as joint director. In the progress report of this period, Akhtar Hameed Khan wrote, "Let us hope that assistance of a UN agency obtained at high cost will upgrade the technical competence of OPP and increase the scope of coordination with our own official agencies. We must now work harder to create neighbourhood organisations capable of using the technical and social advice offered to them."[88]

The UNCHS appointed joint director or Chief Technical Advisor (CTA) as he was to be called, arrived in Orangi in September 1982. He found everything wrong with the Project. It had no targets and no "proper" physical, social and ethnic surveys. It had no master plan. It had no work programme. Its office was dilapidated and in the centre of a noisy and congested area of the settlement and, as such, not conducive to serious work. And finally, its choice of sanitation technology (sanitation was the major OPP programme at that time) and implementation procedures, were disastrous. He argued that the sanitation technology the OPP had opted for required sophisticated engineering and artisanal skills. This, he felt, could only be developed in association with local bodies, elected councillors and professional contractors. Community organisations, backed simply by professionals, technicians and social organisers, could not deliver this technology. In addition, he felt that the social organisers recruited from the Orangi communities, were no more than "muscle men"[89].

After four months in Orangi, the UNCHS CTA wrote an appraisal of the OPP's approach and requested the BCCI president to set up a project in Orangi separately from the OPP. In his appraisal the CTA stated, "Clearly there are two apparently irreconcilable approaches to project execution. One, open ended, exploratory and evolutionary with emphasis on sociological particularities, unconstrained by time and cost. The other, target oriented, systematic, with a professional and technical focus, constrained by time and costs"[90]. In addition, the CTA stated that there should be no doubt at all that the UNCHS was uniquely equipped "to provide specialised support for undertaking large scale projects in low income urban areas"[91].

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87. Hasan A, Akhtar Hameed Khan and the OPP, City Press Karachi, 1999.
88. Edited by Mustafa S, Orangi Pilot Project Progress Reports: April 1980 – June 1983, OPP 1983.
89. Hasan A, Working with Government, City Press Karachi, 1997.
90. Edited by Mustafa S, Orangi Pilot Project Progress Reports: April 1980 – June 1983, OPP 1983.
91. Ibid.

Akhtar Hameed Khan responded to the CTA's appraisal. In his comments, which were sent to the President of the BCCI, he stated, "The 'target-oriented, integrated, urban rehabilitation demonstration' approach may be suitable for an official agency like the KMC or KDA, although previous efforts in *katchi abadis* along these lines have shown poor results. Such plans involve huge investments (not two million dollars, but hundreds of millions) besides the exercise of regulatory powers which are beyond the reach of a NGO"[92].

As requested by the CTA, Orangi was divided and a new project, named the Community Development Project (CDP), under UNCHS administrative control and technical guidance was set up in Orangi. In the thirteenth progress report Akhtar Hameed Khan wrote about this separation, "There will now be two projects in Orangi sponsored by BCCI: the three year old OPP which will follow its own approach, and a new project with UNCHS as the executive agency. The new project will receive US$ 2,000,000 from the BCCI in three years, while OPP will receive a small annual allocation in rupees. OPP will be a purely Pakistani project, characterized by Pakistani austerity and guided by Pakistani experts. Simultaneously the people of Orangi will also have the benefit of another project, characterized by UN magnificence and guided by foreign experts."[93]

The CDP tried to develop the same programmes as the OPP was operating but their approach was "target-oriented, systematic, and with a professional and technical focus." It was backed by a series of international experts. However, after 6 years the project was able to develop sanitation in only 36 lanes and all its other programmes fizzled out. It was wound up in 1989 and its project area in Orangi reverted back to the OPP. During the six years of its existence, the CDP spent over US$ 625,000. During the same period, and at less than one-third the expense, the OPP was able to develop sanitation in over 4,000 lanes covering over 70,000 houses. It was also able to take its various projects well beyond the frontiers of Orangi Township[94].

KMC's Katchi Abadis Upgrading Programme (KAUP) in Orangi and the Beginnings of External Development: The OPP tried many times to approach the KMC for converting the Orangi *nallas* into box trunks, the external development required to complete the OPP model. However, the dialogue between the two organisations never really jelled because the KMC's engineers were not willing to accept the OPP's approach. Things changed as a result of the OPP's involvement with the Karachi Urban Development Programme (KUDP) of which the KMC's KAUP was a part. This was an important event in the development of the OPP-RTI (which had recently been established as an independent organisation) and therefore needs to be described in some detail if the present relationship between the OPP-RTI and local government is to be understood. Also, this involvement led to OPP-RTI's documentation of *katchi abadis*, YTP, *nalla* development schemes and eventually for a low cost solution to Karachi's sewage problems. OPP-RTI Director, Parween Rehman, has told this story in the OPP-RTI Quarterly Progress Reports and in notes prepared for this study[95]. The past dealing with the KAUP is given below and that dealing with the YTP and its spin-offs is given in Section 4.5 of this case study.

In 1989, the KMC's DKA commenced work in certain parts of Orangi under a programme funded by an ADB loan. The work was aimed at providing "internal" sanitation, water and road paving to nine settlements of the area. OPP-RTI stumbled onto the work quite by chance during

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92. Ibid.
93. Ibid.
94. Hasan A, Working with Government, City Press Karachi, 1997.
95. OPP-RTI, 89th Quarterly Reports onwards, March 2002 onwards.

its routine surveys and visits to Baloch Colony, a settlement within the area. The OPP-RTI's team found that the KMC's upgrading programme was duplicating the sanitation lines that the people had laid themselves and repaving lanes that had already been built by KMC councillors. In addition, the work being done was substandard and was destroying work of a far superior quality that the Orangi people had done themselves. In all, the new work was a destruction of people's investment, a waste of loan money and, a negation of the OPP-RTI's work in Orangi. Local people were also objecting to this work.

In March 1989, OPP-RTI prepared a small monograph on the subject and approached both the ADB and the KAD of the KMC regarding its concerns. In the monograph, OPP-RTI explained how through the people's efforts and the programme initiated by the KMC councillors, large scale development had already taken place in Orangi. It pointed out that the ADB programme should aim at complimenting this development by making an investment in trunk sewers and treatment plants and by supporting the OPP-RTI programme. As a result of OPP-RTI's intervention, the work was curtailed. The USAID office in Pakistan helped the OPP-RTI in negotiations with the ADB. USAID is a member of the ADB board and at that time it was in the process of arranging funds for the building of the OPP-RTI Complex in Orangi.

In November 1990, OPP-RTI read a report in the press which said that an agreement for upgrading 920 hectares in Orangi Township and Baldia (another township of informal settlements in Karachi district West) had been signed between the KMC and National Engineering Services Pakistan (NESPAK), a reputed Pakistani firm of consulting engineers. On further investigation, it was discovered that this was a part of the ADB financed KUDP and that Kenhill, a foreign engineering firm, were the main consultants. Part of the project was to prepare designs and implement water supply, sanitation and road paving for ten Sub Project Areas (SPAs) in Orangi. The project was going to finance and build lane sewers and collector drains for the SPAs. However, the trunk sewers were to be built later under a separate loan package that had not yet been negotiated.

The OPP-RTI was already working in some of the proposed SPAs. In part of these areas it had carried out surveys, helped people develop their lane sewers and build their sanitary latrines, and was in possession of maps and data. From November 1990, NESPAK representatives and engineers also started visiting the OPP to collect information and survey maps. During these contacts the OPP-RTI understood the project further and its concerns increased.

As a result, the OPP-RTI tried to initiate a dialogue with the technocrats of the KAD, but there was no positive response from them. OPP-RTI then approached the Mayor of Karachi through its own contacts, and a meeting was held with him in December 1990. OPP-RTI briefed the Mayor on its programme with the help of slides, and also explained what it considered to be the negative aspects of the KUDP upgrading scheme. The Mayor clearly understood the advantages of the OPP-RTI programme and the need to support and compliment it. In January 1991, he visited the OPP-RTI, saw the work it was doing and spoke at length to the residents of various settlements in Orangi.

Following the Mayor's visit to Orangi, the OPP-RTI wrote to the Mayor restating its position and spelling out the advantages that its methodology could have for the KMC's KAUP. This was followed by a series of meetings with the Mayor and the KMC technical staff. The OPP-RTI insisted that lane sewers should be built by the people by themselves and pointed out that in numerous lanes they had already done this work or were in a process of doing it. The project, it was argued, should support this effort rather than duplicate it.

The Mayor was anxious that the OPP-RTI should be appointed an adviser to the KAUP and its methodology should be accepted. However, the OPP-RTI did not want to enter into this agreement immediately. It wanted the KMC to first assess whether the OPP-RTI could be useful to its Orangi project and whether the "external-internal" division of work would be acceptable to the project partners. To assess this "usefulness", four non-project sites in Orangi were given to the OPP-RTI to survey and map all existing roads, sanitation and water supply systems. Once this mapping was done, the Mayor and the KMC-DKA director, Shahid Saleem saw how the entire scope and scale of the project would change if the work done by the people and the KMC councillors was integrated into the new plan for the area. As a result, the OPP-RTI was appointed an advisor to the KAUP in May 1991 but no formal agreement was signed. This "informal" relationship lasted till September 1991 when an agreement was formally signed for a one-year period and later extended till June 1994. The Mayor, later a provincial minister of local bodies, and Shahid Saleem have ever since been the friends of OPP-RTI and the promoters of its work and concept.

After the signing of the agreement, the OPP-RTI started to attend meetings related to the project in which the DKA and KW&SB engineers and consultants were also present. The OPP-RTI's presence was resented by both the engineers and the consultants and its concept and methodology was accepted only because of the support that the Mayor gave to it. Even then it was criticised and the work done in the SPAs by the people through the OPP-RTI advice, was considered substandard.

The consultants also felt that the OPP-RTI was interested in replacing them and taking away their consultancy of Rs 18 million (US$ 0.3 million). They pointed out that if adequately paid, they could organise and mobilise communities as well as the OPP-RTI. The DKA, however, with its long experience of working in *katchi abadis*, knew better and as the dialogue continued the DKA project director and some members of his staff became supportive of the OPP-RTI's position.

During these meetings the OPP-RTI discovered two important issues. One, that the consultants had not made any surveys of existing infrastructure in the settlements and as such had little or no idea of the extent of work done and the investment that people and the KMC had made in the SPAs. In addition, they did not have the expertise to make these surveys quickly and to document them. This expertise was acquired by the OPP-RTI through necessity over a considerable period of time and is not "taught" at professional training institutions. They also had very little idea of the Orangi terrain and could only relate to it through maps and plans. The second issue related to the Balfours plan for the Orangi trunk sewers (not yet constructed), which were being used as the disposal points in the proposals of the consultants.

The consultants had been asked by the KW&SB engineers to relate their work in Orangi to the design of trunk sewers that had been prepared by Balfours under an ODA (UK) funded project. When OPP-RTI studied the plans prepared for the trunks, it was horrified. The trunks did not pick up the lines laid by the Orangi communities or the KMC. In addition, the plan required six pumping stations in an area where there are considerable gradients. If the trunks were to be built, they would run dry unless the Orangi residents were to dig up their sanitation lines and lay them all over again.

The sanitation system developed by OPP-RTI, on the other hand, follows the natural slope of the land and, through various *nallas*, reaches the main Orangi *nalla* which then empties out into the Lyari river. As such, OPP-RTI felt that the trunks should either be laid in the bed of *nallas* or

parallel to them. After a number of meetings with the OPP-RTI and DKA, it was decided by the KW&SB to shelve the Balfours design and drain the sewers into the open *nallas*.

A formal agreement between the KMC and the OPP-RTI was signed in September 1991. By then, not only the Mayor but also the KMC engineers and technical staff had accepted the OPP-RTI concept and developed an understanding with the OPP-RTI team. This understanding was possible for a number of reasons. One, the Mayor was supportive of the OPP-RTI concept and methodology; two, the director of KAD had always been a supporter of the concept of community participation in *katchi abadi* development and during the informal agreement period, he acted as a buffer and a facilitator between the OPP-RTI team and the KMC personnel; and three, the KMC and KWSB engineers had considerable experience of working in low income settlements and understood through experience the problems that arise in designing and developing infrastructure through conventional standards and implementation processes. However, they had developed no alternatives to the conventional way of doing things. The project director, Suleman Memon, became especially supportive, once the OPP-RTI was able to establish its credibility.

An understanding, though a fragile one, had also been arrived at with NESPAK engineers. During the "informal" period, they were invited by the OPP-RTI to visit its offices, exchange information, tour the SPAs and meet with leaders and activists. In the process they began to understand the sociology and politics of Orangi and also to realise the extent and importance of the work that had been done by OPP-RTI staff.

Thus, by the time a formal agreement was signed, the OPP-RTI had come to a broad understanding with the people in government that it was to work with. During this period, the OPP-RTI team that participated in the negotiations consisted of Anwar Rashid, the joint director of OPP-RTI; and Perween Rahman, the director of OPP-RTI. When necessary, they were aided by the OPP-RTI principal consultant and supported by the wisdom and experience of Akhtar Hameed Khan.

Under the terms of the agreement, the OPP-RTI would document all existing infrastructure (including roads and water lines); review sanitation designs prepared by NESPAK and modify them if necessary; coordinate the design and implementation of "external" development for sanitation so as to relate it to the "internal" development that was to follow; and monitor implementation with the help of the community. The OPP-RTI was to submit a monthly monitoring report on sanitation development to the KAD, identifying problems and proposing actions to solve them.

NESPAK was to design, tender and supervise the construction of roads, water supply system and sanitation for the SPAs. However, after OPP-RTI signed the agreement with KMC, NESPAK's role in sanitation became limited to the design and supervision of "external" work only. In addition, it was to avoid duplication of all work that had been done in the SPAs. This duplication was to be identified by OPP-RTI surveys.

The KMC was to finance, design and maintain "external" development while the work was to be tendered out to contractors by KMC's subsidiary, the KW&SB, which was also given the responsibility of supervising construction. The community, meanwhile, was to finance and build "internal" development.

The OPP-RTI did not have the manpower to monitor and supervise such large scale work as was undertaken in the ten SPAs. However, it was able to do this by mobilising the community

and educating them. During the surveys and planning phase, people came to know of the project through interaction between them and the OPP-RTI staff. Later, meetings were held in various areas of the SPAs and the designs were explained to them. In addition, a simplified version of NESPAK drawings were provided to the lane managers (who had already worked on OPP-RTI supported lane sewers) and activists. They were told, that if they did not supervise the work would be substandard and the loss would be theirs as their lane sewers were to connect to the work that the contractors were doing. Through discussions and handouts they were also explained the items of work that required special attention during monitoring and supervision. They were asked to report all discrepancies to the OPP-RTI monitoring team which consisted only of four members.

Area activists, after being trained by the OPP-RTI identified defected work. Detail of some of this has been illustrated in Appendix 10: A Case Study of the Ghaziabad Falahi Committee. The project director Irfan Ali, was a great supporter of the OPP-RTI and he had all defective work demolished. The contractors tried to bribe the activists and to bully them into not giving adverse reports to the OPP-RTI regarding the quality of work, but this did not work. The contractor's bills had to be approved jointly by the OPP-RTI and the KMC engineers. The OPP-RTI refused to approve bills until the community activists had approved them as well. Thus, the corruption of engineers and contractors was curtailed.

The success of the project led to excellent relations between the KMC-KAD and the OPP-RTI. Individuals who had been antagonistic to the OPP-RTI and to the involvement of NGOs in development work, became OPP-RTI's friends and supporters of its concept of development. The KMC-DKA expressed its desire to work with the OPP-RTI in other settlements on the same principles that were followed in the ten SPAs in Orangi. The foundations of this relationship that were laid during the ADB funded KAUP in Orangi have developed over the years. Many of the engineers and administrators that worked with the OPP-RTI at that time are now senior government servants and supportive of the OPP-RTI concept and methodology. Also, the OPP-RTI through this work acquired a respectability and access to the corridors of powers of local government in Karachi. In addition, the ADB funded Orangi KAUP project that was to cost Rs 1,300 million (US$ 21.666 million) was reduced to Rs 38 million (US$ 0.633 million). At such a low cost it did not really require an ADB loan. This experience, also laid the foundations for the OPP-RTI challenging foreign funded loan projects in the future[96].

As a result of good relations, the OPP-RTI and the KMC officials were able to undertake an experiment whereby a project committee consisting of community activists and representatives were able to access KMC-ADB funds and utilise them for building "external" development in their area, thus reducing costs, improving the quality of work and cutting down on the time contractors take in completing work. In theory, the project was supervised by government engineers and as such the name given to the development procedure was "departmental work." This experiment was carried out in KMC councillor circle 125 in Orangi. This experiment has become a model for the development work undertaken by SKAA in the *katchi abadis* of Karachi[97].

Lobbying for External Work: The OPP-RTI supported sewage system disposes into the *nallas*. Parts of many of these *nallas* have been encroached upon by house extensions. In addition, due to being used as garbage dumps and due to silt from sewage, there was a fear of their being choked. The OPP-RTI was conscious of this from the very beginning and was of the

96. Hasan A, Working with Government, City Press Karachi, 1997.
97. Ibid.

opinion that these *nallas* should be turned into box trunks to carry both sewage and storm water. However, for this the catchment areas of the *nallas* needed to be documented. OPP-RTI's work with SKAA offered such an opportunity.

OPP-RTI's work with SKAA required that the *katchi abadis* where SKAA was working should be documented. For this staff was required. The OPP-RTI was already documenting *katchi abadis* near its new office and had a small YTP for training young Orangi residents for this purpose. It was decided to expand this programme. (For details of YTP see Section 4.5 of this case study). The Orangi *nallas*, which were the disposals for Orangi's sewage, and then catchment areas, were also documented. On the basis of this documentation, the OPP-RTI has prepared designs and estimates for turning these *nallas* into box trunks. Due to the relationship established between the OPP-RTI and government officials through the KUDP project, a process of effective lobbying became possible in spite of the fact that the Orangi *nallas* were not a priority for local government funds since Orangi was not politically important.

As a result of the lobbying process (which meant that the director and joint director took appointments and met officials often), Haryana *nalla* 6,668 rft costing Rs 8.4 million (US$ 0.14 million) was approved by the Minister Local Government and Katchi Abadis and budget was sanctioned. This *nalla* serves as the disposal for 700 lane sewers, comprising 14,000 houses. In March 1998, work on site began. By June 2000, construction of 3,500 rft was completed. Owners of 30 houses voluntarily demolished parts of their houses to make space for *nalla* development. This was possible because the community collectively decided that it was necessary and the house owners also saw the advantages of it for the health and recreations of their children. OPP-RTI role has been to monitor work and provide guidance to KMC site engineers and to community activists for supervision of work and building community organisations. In July 2001, after more than a year's effort, work on the extension phase of 1,700 rft *nalla* development began. Construction of the covered drain has been completed. Effort is being made for the reconstruction of five culverts along the length of the drain[98].

After more than two years of lobbying, in July 2001, KMC sanctioned development of another *nalla*, the Ghaziabad *nalla*. Again, the OPP-RTI design was accepted. The 4,900 rft box trunk costing Rs 9.31 million (US$ 0.155 million), serves as sewage disposal for 425 lanes and 8,500 houses. Owners of 14 houses voluntarily demolished parts of their houses to make space for the project. Again, community activists and OPP-RTI monitored work to maintain quality. Regular weekly on site review meetings were held with local government engineers. Local organisation and UC *nazims* facilitated the voluntary demolitions and are safeguarding the vacant space along the drain, which is planned to be used for tee plantation and parks. A local organisation 'Bilal Welfare Trust' has started the development of a part along the drain on self help basis.

Design and estimates for *nalla* development of 17 tertiary and one main *nalla* of total length 118,687 rft is now available with OPP-RTI. On request design and estimates for development are provided to Town and UC *nazims*, CBOs and activists. In August 2002, development of Hanifabad *nalla* into a covered drain 5,282 rft costing Rs 11.2 million (US$ 0.186 million) serving 200 lanes was approved by the local government and work is in progress[99].

The scale of the work that is being carried out and the households it is benefiting is obvious from the figures above. The figures also show that the costs are not exorbitant. *Nalla*

98. OPP-RTI, 92nd Quarterly Report, December 2002.
99. Ibid.

development also reclaims a lot of land which the communities are protecting with help from the UCs as open spaces and parks.

Work with the UCs: After the enactment of LCGO 2001, there are 13 UCs in Orangi. The OPP-RTI has received requests from 12 UC *nazims* for support in preparing UC development plans. As a result, UC plan books are being prepared. The plan books contain maps of the UC and of the individual settlements within each UC; documentation of existing sewage disposal; water supply; health and education facilities; existing solid waste disposal details; parks, playgrounds and open spaces; and the identification of the role of community and government in future development programme.

Plan books for seven UCs are complete and meetings are held with the *nazims* where UC plan books are presented and proposals are discussed. The UC plan books have been made available to CBO activists and as a result the CBO activists are coordinating details with the UCs (see Box 3.5: UC-6 and OPP-RTI Cooperation). The OPP-RTI has been able to undertake the preparation of the UC handbooks because of the expertise it has developed through the YTP[100].

4.3 Replications through NGOs and CBOs

Early replications in Karachi: Since 1983, community organisations and their activists and NGOs from other *katchi abadis* and informal settlements in Karachi and from other cities of Pakistan have applied to the OPP for help in replicating its low cost sanitation programme in their areas. The first attempt at replication of the OPP model was in Karachi in 1986 at Masoom Colony. It was a small settlement of 126 houses. Although the main sewage line was built the houses did not connect to it. Also, the area councillor was against the project as he felt that it undermined his authority. In addition, the OPP found itself over stretched working in this settlement because of an already heavy work load in Orangi. OPP was introduced to Masoom Colony by a couple engaged in social work in Masoom Colony who had read about OPP work in the SELAVIP Newsletter.

In another settlement, the OPP worked with the Aga Khan Medical University Community Health Sciences Programme (CHSP), Karachi at about the same time. The CHSP was anxious to work in collaboration with the OPP. The CHSP had definite targets to achieve and when it could not achieve them it decided to subsidise internal development to begin with. The lanes that were not given subsidise refused to build their sanitation system without subsidies. The CHSP also established a centre in the area which was often frequented by foreigners and expensive four wheel drive vehicles. The community also felt that the CHSP had money and therefore should build the system for them[101].

However, OPP had considerable success in working with the Anjuman Falah-o-Behbood (a local conventional social welfare organisation) in the *katchi abadi* of Manzoor Colony in Karachi. Here the OPP trained the activists of the local organisation at the OPP and gave top supervision to the work on site. Community members from Manzoor Colony were invited to Orangi to meet residents who had built their sewage system. As a result, 1,451 houses in 71 lanes built their sewage systems and their secondary collector sewers without any external help. The process has continued, and now 153 lanes containing 2,950 houses have connected to the system. They have also built 36 secondary sewers. A new leadership has emerged which has started to

[100]. Ibid, Supported by authors interview with Dr. Shakeel, April 2003.
[101]. Hasan A, Scaling-Up of the OPP's Low Cost Sanitation System, OPP-RTI 1993.

work on acquiring lease for the settlement, for the creation and protection of open spaces, lobbying with estimates for building access roads and organising garbage disposal. They have also lobbied successfully for converting the Manzoor Colony *nalla* into a box trunk through KMC funds[102]. The OPP was introduced to Manzoor Colony by the NGO Resource Centre, an organisation working in the area.

The OPP learnt a number of lessons from these and similar replication attempts in Karachi. One, that the OPP cannot go and work in other areas of Karachi or Pakistan. Nor it can solve people's problems, it can only give them advice and training. This training would have to be given at the OPP where a demonstration area was available and where interested persons and/or activists from other communities could come and meet the Orangi residents who had built their sanitation system. Since these activists were similar to the Orangi activists and communities, there would be a transfer of ideas and skills and a belief that it was possible to build a self-financed and self-managed sanitation system. It was these lessons that led the OPP to decide to turn the sanitation, housing and education programmes into a Research and Training Institute. Two, that in dealing with low income communities, support organisations must keep a low profile and not present an image of affluence. If they did present such an image, the communities would say "they can easily finance a sanitation system, why are they asking us to do it?"[103]. And three, that subsidising and managing development for the people so as to create a demonstration effect ends up by being a demonstration of subsidy and dependence rather than of benefit. These lessons have shaped the OPP-RTI methodology for replication projects both in and outside of Karachi. For a list of sewage construction outside of Orangi (in Karachi and in other areas of Pakistan), see **Appendix 11: Statistics: Sewage Construction Outside Orangi**. From the Appendix it will be seen that the OPP has reached out to more than 31,570 houses outside of Orangi in 11 Pakistan towns apart from Karachi.

Replications outside of Karachi: From the mid-'90, the OPP-RTI has supported NGOs and CBOs outside of Karachi. Much of this support was made possible by the financial assistance of WaterAid, a UK based international NGO whose director had heard of the OPP-RTI and visited it in 1993. During this visit both the OPP-RTI and WaterAid identified areas of collaboration. One of these areas was to provide financial support to NGOs and CBOs so that they could develop and operate the OPP-RTI's low cost sanitation programme. In addition to financial support, technical and managerial support was also to be provided and for that funds were made available for training sessions in Karachi and advisory visits to project sites by OPP-RTI staff. This training was to be provided on community mobilisation, surveying, planning, estimating and construction of sewers. In addition, training was to be provided for documentation of work, reporting, accounting and management. A grant of PS 1,600 per year was approved for OPP-RTI network activities of travel, training and visits to project sites outside of Karachi. Standard costs for support to NGOs and CBOs outside of Karachi were also worked out and are given in table 4.3.1 below[104].

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[102]. Ibid.
[103]. Said by a community woman to the author in April 1990.
[104]. Hasan A, Working with Communities, City Press Karachi, 2001.

Table – 4.3.1

Standard Costs: Grants to NGOs/CBOs out of Karachi

Activity	Pak Rupees	Pound Sterling
Technical support (Survey and draftsman @ Rs 4,000 per month each	96,000	1,600
Mobilisation (2 social organisers @ Rs 3,000 per month each)	72,000	1,200
Tools and shuttering	30,000	500
NGO staff training (Direction costs only)	36,000	600
Office running costs (Stationery, postage etc.)	20,000	335
Extension materials and activities (Leaflets, posters, neighbourhood)	10,000	165
Documentation (Report writing, presentation etc.)	10,000	165
Annual budget	**274,000**	**4,565**

Much of the identification of NGOs that received OPP-RTI support was done by the South Asia Partnership (SAP) in Lahore, which is a chapter of SAP, a Canadian international NGO. At that time, Akhtar Hameed Khan and the Principal Consultant to the OPP-RTI were both members of the SAP Council.

There have been 13 NGO/CBO attempts at replicating the sanitation programme outside of Karachi. Five of these have been failures; two have been remarkable successes; and four show signs of promise. One of the failures is illustrated in **Box 4.3.1: The Work of the Youth Commission for Human Rights (YCHR), Lahore**. In all cases except one, the NGOs and CBOs who have replicated the programme set up a small unit whose administrative and overhead costs were paid for by the OPP-RTI through its own resources or by arranging funds from WaterAid. In all these projects, disposal points for sewage were not available through natural drains as they were in Orangi. Therefore, "external" development meant the construction of long collector drains to existing government trunks or the natural drainage system. These had to be constructed before "internal" development could take place. For this, credit has been arranged for the NGOs and CBOs and they recover this when a lane connects to the collector drains. Thus, the credit has become a revolving fund. In other cases, the communities have negotiated with their government counterparts to develop the collector drains that they have identified and estimated. This identification and the estimate have been prepared by the technical unit of the NGO/CBO with OPP-RTI support. In one case, in northern Pakistan, the NGO has identified a location for a main drain to which the entire town could connect completely changing the degraded existing environmental conditions. It is being surveyed and costed along with a treatment plant design and estimate. The NGO is confident that it will manage to get this approved by the government in the coming annual development plan for their town[105].

Box – 4.3.1: The Work of the Youth Commission for Human Rights, Lahore

The Youth Commission for Human Rights (YCHR) was established in 1989 by a group of left wing radical university graduates and its area of activity was made Kot Lakhpat, a working class area in Lahore. The moving spirit behind the YCHR was a young couple, Rukham Khan and his wife Shazia. The original purpose of the organisation was to increase awareness regarding human rights and initiate programmes around them. Rukham Khan and Shazia were known to the SAP Coordinator Muhammad Tahseen who

[105]. Hasan A, and Alimuddin S, Governance, Decentralisation and Poverty Eradication: The View from Orangi, unpublished report prepared for the South Asian Perspectives Network Association (SAPNA), Colombo, 2002

helped them change their focus to health and sanitation and advised them to get in touch with the OPP-RTI.

Akhtar Hameed Khan was impressed by the young couple. They were educated, aware and enthusiastic. In addition, they had a home school project running successfully in Kot Lakhpat and had identified sanitation as the main problem in their area. Their problem was that they were not financially secure enough to give undivided attention to their work. Akhtar Hameed Khan arranged from the Infaq Foundation a salary of Rs 5,000 (US$ 83.33) each per month for Rukham Khan and Shazia. They visited the OPP-RTI for orientation and training in 1991 and easily understood the concept and methodology of the OPP-RTI sanitation programme.

The OPP-RTI and Akhtar Hameed Khan personally, invested a lot of time and efforts in training and building the YCHR organisation. The inputs made by the OPP-RTI and other OPP institutions for the development of YCHR are given in table 4.2.2.

Basic data and maps of Kot Lakhpat were collected by the YCHR from the local government by 1992 but the project could not take off due to lack of finances for acquiring equipment, tools and management support. To overcome these constraints, financial support from the SDC was sought and was provided from February 1993 to January 1996.

With this support the YCHR established a site office and a team of social organisers and surveyors which were equipped with instruments, tools, shuttering and audio visual aids. OPP-RTI helped organise their management and their work plan. Community members were also trained at the OPP-RTI. By December 1996, 61 self financed lane sewers had been constructed providing sanitation to 720 houses in which people had invested Rs 1.44 million (US$ 0.024 million). The YCHR also coordinated the laying of a 15" diametre 1,800 running feet trunk sewer financed by the Cantonment Board. Requests were received from two more settlements where contact building and socio-economic surveys were undertaken. The office of YCHR attracted young professionals and graduates. It became a centre of discussion and debate on development issues. The OPP-RTI also helped the YCHR in establishing a micro credit programme in September 1992.

However, the sanitation programme slowed down and there were periods during which it was inactive. There were a number of reasons for this. A sanitation team could not be consolidated and there was no technical person available for months on end. Also, the leaders of the technical team were qualified professionals who invariably came from outside the settlement and they had more important priorities than the sanitation programme at Kot Lakhpat. Also, the interest of the YCHR had shifted from the OPP-RTI project to a large internationally supported project funded under the government Social Action Plan (SAP)-1 and whose main components were education and health. All this increased the overheads of the YCHR considerably and increasingly involved it in donor supported seminars and workshops. YCHR also began to take on consultancies and at one stage its director, Rukham Khan, took on a full time job and his post remained vacant for many months.

The SAP project funding expired in 1996 and so did the funding of the Swiss NGO programme expire in January 1996. As a result, there was a financial crisis in YCHR and problems in continuing with the sanitation programme. In December 1996, the OPP-RTI carried out a review of the YCHR work and discovered that the YCHR was dealing with its financial crisis by using the money recovered from the loans of the micro credit programme. Eventually, the OPP-RTI withdrew its support to the YCHR for its sanitation programme but the YCHR has continued with it.

The YCHR is not considered as a failure by the OPP-RTI. The organisation has survived and expanded its work in education, health and solid waste management. In sanitation it has done very little work since 1996 but has been engaged in training NGOs and CBOs for the replication of the sanitation programme. It has also established a YCHR Centre for Research and Training which has been involved in providing technical training and capacity building assistance to various organisations including SAP, Punjab NGO Coordination Council and other NGOs and CBOs. They are also involved in the solid waste collection and

management programme in the Lahore cantonment area and in Ward No. 31 in the Walled City of Lahore. Their sanitation programme now covers 111 lanes serving 1,391 households.

The OPP-RTI's evaluation of the YCHR is that it failed to follow the methodology and culture of austerity of the OPP-RTI programme. It expanded too fast and got involved in far too many activities before consolidating its own work and its financial position. It succumbed to the pressures of donors who were desperately in search of partners. The YCHR on the other hand feels that there are other ways than that of the OPP-RTI of doing things. For instance, in a conversation with the Principal Consultant of the OPP-RTI, Rukham Khan said that the main purpose was to provide sanitation so it made no difference if it was done through consultancies, contracts or organised pressure on government agencies. This is major departure from the OPP-RTI philosophy. Currently, Rukham Khan is the Public Relation Officer to Corps Commander Lahore. He has got this job after another stint with the YCHR.

Source: Hasan, A, Working With Communities, City Press, Karachi 2001

Wherever local initiatives have been successful, they very quickly establish a dialogue with local government in charge of sewage systems and press for the acceptance of the "internal-external" concept. Local governments are under pressure to perform from their voters and as such they informally accept this concept and support the communities. However, the provincial planning agencies do not accept this concept and its implementation takes place in violation of their standards, procedures and plans. This violation is helped by the fact that the plans of the planning agencies do not get implemented and with the expansion of settlements and the ad-hoc laying of infrastructure they very soon become redundant.

NGOs and CBOs who successfully replicate the OPP-RTI model are flooded with requests from other settlements to assist them in solving their sanitation problems in a similar manner. However, not all the NGOs and CBOs are capable of doing this. The ASB in Faisalabad and the Lodhran Pilot Project (LPP) are two initiatives that are expanding their work outside of their areas. For details, see **Box 4.3.2: The Work of the Anjuman Samaji Behbood, Faisalabad** and **Box 4.3.3: The Work of the Lodhran Pilot Project**.

Box – 4.3.2: The Work of the Anjuman Samaji Behbood, Faisalabad

The Anjuman Samaji Behbood (ASB) was formed in the late 60's in Dhuddiwala, which was then a suburb of Faisalabad and is now a part of the city. According to its president Nazir Ahmed Wattoo, the ASB lobbied with various politicians and government officials for acquiring water and sanitation for his settlement but without success. In 1987, he came in contact with the OPP (when he met the OPP principal consultant at a seminar) and in 1994 he began a credit programme with OCT assistance of Rs 100,000 (US$ 1,666.66) and training for his staff at the OPP-RTI. In three years, he had lent Rs 4.3 million (US$ 0.071 million) to 277 units with no defaults. In 1996, he began a water project and a sanitation programme in Dhuddiwala and the settlements around it. Hasanpura, a neighbourhood without water, was chosen as a pilot area. How Nazir Ahmed Wattoo motivated the people of this area to invest in water and sanitation is worth recording. Nazir Ahmed Wattoo with the help of the OPP-RTI team identified a Water and Sewage Agency (WASA) water main at a distance of 1,100 feet from Hasanpura, which could be tapped for getting water to the settlement. However, since WASA permission is required to tap any line, the ASB made a formal application to WASA for this purpose. WASA responded that it was not possible to treat Hasanpura as an individual case as it formed a part of a larger WASA water supply plan. WASA further stated that its plan would be implemented in 2008 and that too depended on the availability of funds. Another problem was that the pipe line would have to pass under a major road for 110 feet and for that special Faisalabad Municipal Corporation (FMC) permission would be required.

The ASB discussed this reply with the OPP-RTI and it was decided to calculate the total expenditure that Hasanpura residents had to incur due to the non-availability of potable water. According to the ASB

analysis, Hasanpura residents acquired drinking water from outside their settlement through donkey-cart vendors. Underground water from shallow bores was used for washing clothes and other purposes as it was brackish. The water was extracted from these bores by a large number of electricity operated pumps. According to ASB calculations, every house was purchasing 35 litres of water every day for Rs 5. Thus, the total expense for 1,000 houses was around Rs 5,000 (US$ 83.33) per day, Rs 150,000 (US$ 2,500) per month and Rs 1,800,000 (US$ 30,000) per year. Since almost every house had an electric pump for extracting ground water, around 730,000 units of electricity were consumed annually. This amounted to Rs 1,460,000 (US$ 24,333.33) per year. Additional community expenses incurred on washing of clothes, using saline water were also assessed. It was estimated that additional laundry soap consumed by 1,000 houses was 48,000 kg per year. The cost of this additional soap works out to Rs 960,000 (US$ 16,000). The consumption of additional bath soap was around 96,000 pieces. Its cost was estimated at Rs 672,000 (US$ 11,200). Use of saline water, dearth of clean water and bad sanitation conditions, were responsible for various diseases. It was estimated that residents spend about Rs 2,400,000 (US$ 40,000) annually on medicines and doctors. Open drains were also causing water logging and damaging the housing stock due to rising damp. It was estimated that each house spent about Rs 2,000 (US$ 33.33) per year dealing with this problem, and 1,000 houses spend Rs 2,000,000 (US$ 33,333.33). Thus, owing to the above factors, the community was spending Rs 9,292,000 (US$ 154,866.66) annually. If water came in 2008 to the ASB areas, then the community at this rate would spend Rs 100 million (US$ 1.66 million) between now and 2008. A water and sanitation system could save them this expense. It was therefore decided to inform the community of these figures and present them with the OPP alternative. A presentation of these figures led to the communities involvement in financing and building a water and sanitation system.

So far 40 lanes have invested Rs 1.3 million (US$ 0.021 million) in developing a water distribution system. A Rs 200,000 (US$ 3,333.33) revolving fund was given for the main water line by WaterAid, a UK based NGO. This revolving fund has been recovered and ploughed back into funding the secondary sewage lines as a revolving fund. Similarly, 347 lane sewers, four large and five secondary sewers of a total length of 93,957 rft have been laid connecting 4,635 houses who have invested a total of Rs 15.035 million (US$ 0.250 million) in this entire work. WaterAid provided an additional Rs 700,000 (US$ 11.666) as a revolving fund for secondary sewers. The whole community with ASB support lays the secondary sewers, and then as each lane (after building its lane sewer on a self-help basis) connects to them, it pays back their share of the cost of the secondary sewers. The programme has now been extended to 49 settlements and more settlements are requesting support.

The ASB secondary sewer location and design is approved by the WASA in Faisalabad, and the water main line laid by the community has also been approved by them.

How was all this made possible? Nazir Ahmed Wattoo replies, “For three years I travelled back and forth between the OPP-RTI in Karachi and my Faisalabad office. I understood the OPP-RTI methodology. I began with the OPP credit programme which was successful and which established my credibility in the eyes of the community. For the water and sanitation programme, I held corner meetings with people who I knew were honest and had influence and young people who were enthuastic. If I had not been a resident of the area, I would never have been able to convince people and to make the committees that then organised work. My dealings with the government began by getting informal (considered illegal by rules and regulations of government) support from the lower staff of WASA. Later, as the work expanded, certain WASA officials became supportive but rules and regulations did not recognise our work. It was then that I went to the Provincial Ombudsman to seek support and this was given. After that an agreement between WASA and ASB was reached whereby we could build secondary sewers and connect them to WASA trunk sewers and build water lines, but with the agreement of WASA and according to their standards. The OPP-RTI advice and training, especially training our technicians, have been crucial in all this work. In our initial stages, and even today, their creditability has given us creditability. Our work has proved that the poorest in the country are not really poor if they come together.” The ASB supported communities are paying WASA charges for water and sewage, although they have developed the infrastructure themselves.

ASB has now been giving social guidance and technical support to UNDP programmes and is a consultant to the replication of its own programme in Jaranwala town (population 103,308) which is being supported by the UNDP and the town *nazim*. Many government and donor officials, professionals, development activists, journalists, social organisations and community groups are visiting ASB who has also prepared audio-visual documentation of their work.

Source: ASB Progress Reports and interviews with Nazir Ahmed Wattoo, ASB President.

Box – 4.3.3: The Work of the Lodhran Pilot Project

In early 1998, Mr. Jahangir Khan Tareen, then chairman of the government's Agricultural Task Force, visited the OPP-RTI along with the then Chief Minister of the Punjab. Mr. Tareen was impressed by the OPP-RTI concept of development and wanted to replicate it in Lodhran, the district headquarter of the area where his farms are located. As a result, it was decided that the OPP-RTI's infrastructure project would be replicated in Lodhran town as a collaboration between the municipal committee and an NGO. Since a suitable NGO did not exist, one was created and named Lodhran Pilot Project (LPP). The services of Hafeez Arain, OPP-RTI's senior most social mobiliser were made available to the LPP and Hafeez Arain became the coordinator of the LPP. Dialogue with the municipal committee and local communities also showed that they were interested.

It was recognised from the very beginning that there were to be differences between the OPP-RTI's work in Orangi and the LPP's work in Lodhran. These differences are: i) Unlike OPP-RTI's work in Orangi, LPP's work was not to be confined only to low income settlements but was to deal with the city as a whole. ii) In the case of OPP-RTI, a relationship with the KMC was established after considerable development work had been done in Orangi whereas in the case of LPP the municipal committee was to be a partner of the LPP from the very beginning. iii) In the case of Orangi "internal" development was done first and "external" development followed; whereas in the case of LPP "external" development, carried out by the municipal committee, was to be used as an incentive to motivate people for "internal" development.

The municipal committee provided office space to the LPP and the municipal engineer and the LPP social organiser shared this space. However, before undertaking work, an understanding of Lodhran's sewerage and water supply system was undertaken with the support of the municipal engineer Khalid Waraich, who spent a considerable amount of time at the OPP-RTI for orientation and training. Details of OPP inputs are given in Table 4.2. There were problems for developing the external system in Lodhran, since there was no map of the town. So, the first priority was to have one prepared.

Over six months were spent exploring various alternatives including satellite imagery but they were all unsuccessful. Finally, a contract was given to Shoukat & Associates of Mingora (who were associated with an OPP-RTI replication project in the NWFP province) to prepare a plan table map of Lodhran. The plan was prepared in four months and the level of each lane was worked and marked. Cemented landmarks were installed in the lanes for future reference. The map exited the municipal engineers and representatives and it was put up in the LPP office where Lodhran communities came to inspect it with equal excitement.

The municipal engineer with OPP-RTI and LPP support identified all existing infrastructure and marked it on the map and then prepared the designs and estimates for external sanitation. Twelve projects for rectification and extension of existing main sewers and for new main sewers have been approved and implemented by the local government through its own resources as part of a master plan prepared by the municipal engineer and the LPP. The lanes are building their sewers and the local government has promised to pave the lanes that build their sewer lines. This is an incentive for people to build their sanitation system. Water is not a problem as subsoil water is potable and people have made bores to extract it. Meanwhile, as the work has expanded, a new social organiser, surveyor and draftsman have

been added to the LPP staff. They too have received orientation and training at the OPP-RTI and from Hafeez Arain.

The LPP has extended its programme to the adjacent towns and villages. This is because Jahangir Tareen has links with the *nazims* and *naib nazims* of these areas and in addition has recently won the elections to the National Assembly from these areas as well. As a result, the LPP is working at present in five villages and three towns with the local councils who are building the "external" and the communities who are building the "internal" infrastructure. Lanes that build their infrastructure are paved by the councils.

Hafeez Arain is of the opinion that while communities and *nazims* and *naib nazims* have no difficulty in understanding and accepting the OPP-RTI model, the engineers have serious problems in accepting and executing the model. He feels that a different training for engineers is required, especially with regard to working with communities and maintaining systems through manual work rather than sophisticated machinery which ultimately becomes inoperative and difficult to replace. Their have to be local O&M solutions.

Source: OPP-RTI and LPP Progress Reports and conversations with Hafeez Arain.

Even where the OPP-RTI replication projects have not been successful, the activists and communities which have promoted them have enhanced their powers of negotiation with government agencies, understood the OPP-RTI's methodology and modified and applied it to other poverty related issues in the project areas.

The OPP-RTI's method of working now consists of identifying community organisations and supporting their activists financially and technically. Where organisations do not exist, activists are supported to create an organisation. Financial support, as explained above, is from WaterAid funds through which shuttering for manholes and surveying and levelling equipment is also funded. Technical support is through training of activists at the OPP-RTI through orientation, site visits, practical training in surveying, levelling and mapping. Administration, monitoring, documentation and account keeping are also transferred through an association with the OPP-RTI. Therefore, all these projects are well documented along with photographs and some of them have also made videos of their work. One of them, in Uch, has established a proper computerised mapping system with the help of the Conservation and Rehabilitation Centre (CRC) run by architects who are working on the rehabilitation of the monuments of the historic city of Uch. The replication projects interact to each other and often seek each other's support, independently of the OPP-RTI. The support of ASB Faisalabad is often sought for social mobilisation and that of the Uch project, for mapping. All these projects are also members of the CDN. The OPP-RTI inputs into these projects through visits to them and from them are given in Table 4.2.3. The OPP-RTI procedures and principles that have evolved over time after an analysis of its work are given in **Box 4.3.4: OPP-RTI Procedures and Principles**.

Table – 4.3.3

OPP-RTI Visits to and from the CBOs/NGO outside Karachi

Community Based Organisations (CBOs)	**Visits to OPP-RTI**			**Visits from OPP-RTI**			**Between (date)**
	No. of persons	Reasons	No. of days	No. of persons	Reasons	No. of days	
Youth Commission for Human Rights (YCHR), Lahore	11 1	• Sanitation • Credit	31 4	13 2 2	• Sanitation • Credit • Organisational Management	26 2 1	Nov. 1992 and Jan. 1998

Community Development Concerns (CDC), Sialkot	4 3	• Sanitation • Orientation	9 3	4 2	• Sanitation • Micro Credit	31 1	May 1994 and July 1997
Anjuman-e-Samaji Behbood (ASB), Faisalabad	18 1 39 31 21 1 1	• Orientation • Training to OPP programs • Sanitation • Micro Credit • Health • General Workshop • Organisational Setup	2 2 1 8 3 4 5 1 6 6 3	2 20 6 7 4	• Joint Survey of Project Area • Sanitation • Water • Micro Credit • Organisational Setup	3 62 31 10 8	Dec. 1987 and Dec. 1999
Anjuman Falah-o-Behbood (AFB), Rawalpindi	20 14 9	• Sanitation • Micro Credit • Health	29 16 10	14 6 8 2	• Sanitation • Micro Credit • Organisational Setup • Review of work	35 8 8 3	March 1996 and Nov. 1999
Environmental Protection Society (EPS), Swat	6 8	• Orientation • Sanitation	6 11	2 2 3	• Sanitation • Other activities • Review of work	5 2 4	Dec. 1998 and March 2000
Lodhran Pilot Project (LPP), Lodhran	10 13	• Orientation • Sanitation	4 35	1 9 7	• Map of City • Sanitation • Organisational Setup	2 9 6	March 1999 and Jan. 2001
Conservation and Rehabilitation Center (CRC), Uch	2 9	• Orientation • Sanitation	6 10	3 1	• Sanitation • Review of Work	7 2	Sept. 1998 and Jan. 2001

Source: *Prepared by the authors from OPP-RTI raw data and publications, February 2003*

Box – 4.3.4: OPP Procedures and Principles

1. Identification of existing community organisations and dialogue with them.

2. Survey and documentation of what exists; physical, social (actors and their relationships), economic conditions, technology in use. This is to be done with the help of the actors involved in infrastructure development.

3. Development of a conceptual plan on the following principles:

- Division into internal and external infrastructure components.
- Component sharing between community, NGO and or government (never cost sharing).
- Decentralisation and miniaturisation of functions/technology.
- Establishment of optimum relationship between needs, resources and standards but appreciating that all three are dynamic and can change over time.

4. Using the above principles to build on what exists.

5. Identification of activists and support to them financially and technically.

6. Development of skills within the community: Conventionally trained professionals are not an alternative to local para-professionals and technicians.

7. Monitoring; it simply means weekly meetings, informed discussions between staff and community members (occasionally with support from resource persons), minute keeping and regular follow up.

8. Documentation, dissemination and modification of programme (involvement of consultants, academic institutions and local people).

9. Account keeping; all accounts including salary of staff members should be published regularly and made public.

10. Collective decision making; all decision making should be made through consensus between resource people, activists, staff members, government officials.

11. Relate local level issues to larger urban realities (dialogue with government agencies and politicians).

Source: *Hasan A and Alimuddin S, Governance, Decentralisation and Poverty Eradication: The View from Orangi: unpublished report prepared for the South Asian Perspectives in Network Association (SAPNA), Colombo 2002.*

The reasons for the failure of NGOs and CBOs to replicate the OPP-RTI programme are similar. They are: i) Failure to develop a technical cum motivation team: The major reason for this failure is that the technical people do not come from within the community but are hired professionals from the market who leave whenever a better opportunity is available and a new appointee has to be trained all over again. ii) Acceptance of large sums of donor money for expansion: In all cases where this has happened, the NGO/CBO has not been able to deliver because it does not have the capacity or the capability to expand its work accordingly. Accepting large sums of money have also led to financial mismanagement and in one case to the cancellation of funding. iii) Subsidising lane development: OPP-RTI believes in component sharing. Where cost sharing takes place, there are invariably disputes, higher costs and less empowerment of communities. Greater resources, that are not normally available, are required and in their absence the programme fails. iv) Absence of patience: The OPP-RTI sanitation model requires patience and time. NGOs/CBOs who do not have this patience, discontinue the programme. v) Failure to keep in touch with the OPP-RTI and seek its advice. vi) Failure to share accounts of the NGO/CBO with the community. This makes the community feel that the NGO/CBO is making money from foreigners or government agencies. vii) Absence of cooperation by government agencies and officials. This has been due to a number of reasons. Either their officials and or engineers did not receive orientation and or training at the OPP-RTI or alternatively there were constant transfers of personnel in the relevant government departments. In certain cases there was political opposition to the OPP methodology as it was seem as a threat to contractors and engineering departments of local and provincial governments.

The reasons for successes are also similar: i) The development of a technical cum social organisation team with staff members from the community. ii) An activist or leader who can establish an informal working relationship with local government functionaries and politicians. iii) The availability of a map of the area or the expertise of preparing such a map. iv) Patience to wait and consolidate rather than expand the programme. v) Availability of funds for staff and

administration and credit for developing long collector sewers where disposal points are not available. vi) Coordination with OPP-RTI for advice, training and documentation. vii) Regular weekly minuted meetings to review progress, take stock, assign responsibilities and identify weaknesses and the process of overcoming them. viii) Transparency in account keeping and the involvement of local people on the board of the NGO. ix) Cooperation from government officials and or politicians. Support to the OPP methodology has come from public spirited politicians and government officials. Many of these received orientation at the OPP-RTI or attended public administration courses where the OPP was discussed[106].

However, the most important thing that the OPP-RTI has learnt through its replication projects is that there is such a thing as an OPP-RTI culture which integral part of the sanitation programme. This culture has an element of austerity and simplicity because of which it is compatible with the sociology and economic of low income communities. The OPP-RTI also learnt that it is necessary to separate the sanitation budget and accounting procedures from those of other programmes so that no overlaps occurred. These overlaps can result in unintended financial indiscipline which creates problems not only for the sanitation programme but for the organisation as a whole.

4.4 Replication through Government Agencies and Donor Programmes

Early Attempts and the Causes for Successes and Failures: The first major collaboration of the OPP-RTI with a government agency was in 1991-94 for the design and implementation of ADB funded PAK-793 Project for a part of Orangi, which has been described in Section 4.2. The initial objectives of the ADB financed upgrading programme were changed to accommodate the OPP-RTI concept of development. The change meant that the KMC would provide collector sewers, which would be considered "external" development and the OPP would continue to mobilise people for financing and building their lane sewers, in the identified SPAs. The objective, therefore, was to create a collaboration between government agencies, the OPP-RTI and the people of Orangi. As a result of this agreement, 120,983 running feet of trunk sewers were laid by the project and 1,093 lanes containing 21,866 houses built their sewage systems at their own expense and connected to them.

The project was successful for a number of reasons which are: i) The mayor of KMC at that time was a friend of the sister of the Director OPP-RTI and as such was approachable. He took a personal interest in the project. ii) The Project Director had previously been the administrator in Orangi and in that capacity had dealt with the OPP-RTI and its sister organisations. He was fully supportive of the concept and saw to it that the provisions of the agreement were followed by government engineers and contractors. iii) The OPP-RTI had close links, built over a decade, with the activists and the residents of most of the SPAs. Therefore, it was easy to mobilise them and advice them on technical matters related to the project. iv) Since the project was in Orangi, it was easy for the OPP-RTI to supervise it with the help of the communities.

Other attempts of working with government were not so successful. The UNICEF's Urban Basic Services Programme in Sukkur (an intermediate city 450 kilometres north of Karachi) and the World Bank-Swiss Development Cooperation (SDC) programme in Hyderabad also adopted the OPP-RTI's sanitation model between 1990-94. OPP-RTI was a party to a tripartite agreement between the donor agency, government departments and the OPP-RTI. Community project offices with social organisers and technicians from within the community were set up to motivate and provide technical support to communities to build their "internal" development. These

106. Ibid.

project offices were autonomous and not part of the official set-up for the implementation of the "external" which the government departments were supposed to design and implement. This was a major departure from what government of Pakistan and donor projects do. They normally appoint graduates in Social Sciences as social organisers and they are paid by the state or donor agency. The community offices too are under the control of the government or donor agencies and not under the control of the country. The OPP-RTI was to advice, train and monitor both the community and government work. The training was imparted to government administrative staff, engineers and social organisers and to community leaders, social organisers and technicians. In both the projects, the community was mobilised, collected money, and in the case of Sukkur, developed 14 lanes containing 155 houses. However, the government department in Sukkur developed only a part of the "external" but could not maintain its pumping station due to which the work was not able to proceed and the community lost interest. In the case of Hyderabad, after four years, the "external" could not be completed and as such the lanes had no disposal points for their sewage and the project came to a standstill[107].

The reasons for the failure of the projects have been analysed in great detail and have been published in a number of OPP-RTI's reports and monographs, the main points of which are: i) The local government departments who were to design and manage the projects were never consulted in the initial decision-making and as such they did not own the project methodology. The "external-internal" concept was simply forced on them. ii) Training of local government officials and engineers, community activists and policy decision-makers, did not take place collectively although attempts to do this were made at a later date. iii) In the case of Sukkur, a number of existing informal arrangements for infrastructure maintenance and operation were not taken into consideration during the design of the project. iv) Before designing the institutional arrangements for the projects, internal politics, the organisational culture, technical capacity and capability and financial problems of the Sukkur and Hyderabad municipal councils were not undertaken. It was assumed that they would and could play the role that the projects had assigned to them. As such a number of incorrect administrative decisions were taken by the external partners. v) In the case of Hyderabad, the World Bank-SDC office that managed the project was located in Karachi and as such could not look after the project. vi) There were constant transfers of project staff and each new appointee had to undergo intensive training at the OPP-RTI all over again[108].

The Hyderabad and Sukkur communities have kept in touch with the OPP-RTI. In Sukkur, they have attempted to take over the pumping station and operate it. They have not succeeded. In Hyderabad, they have managed to get completed part of the "external" development. It is interesting to note that the Sukkur project was one of the best practices identified for the 1996 Habitat Conference in Istanbul.

Through the Sindh Katchi Abadi Authority (SKAA): The SKAA is a provincial government organisation established in 1986. Its function is to regularise and develop *katchi abadis* in the province of Sindh. A revolving fund of Rs 250 million was provided to SKAA through an ADB loan for this purpose. However, there was almost no progress in SKAA's work until 1991 when Tasnim Ahmad Siddiqui, a bureaucrat who had worked voluntarily with the OPP for many years, became its Director General. Siddiqui decided to adopt the OPP-RTI model, appoint the OPP-RTI as consultant to SKAA for the implementation of the model, bring about institutional arrangements in SKAA that would make its organisation and culture compatible with the model,

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107. Hasan A, Working with Government, City Press Karachi, 1997.
108. Ibid.

and remove the administrative constraints communities and individual households face in acquiring a lease.

The work of the OPP-RTI with SKAA (which they have done together) has consisted of: i) documentation of existing sanitation and water supply in the settlements; ii) identification of existing and required external sanitation and water supply in the settlements (community activists assist in both the stages this work); iii) preparation of detailed design and estimates by SKAA engineers and review of these by OPP-RTI; iv) approval of the project for external development by community activists before finalisation; v) financing and contracting arrangements by SKAA engineers for external works; vi) supervision of work by SKAA engineers and monitoring on site by OPP-RTI and community activists with support from SKAA engineers; vii) on completion of project cleaning and testing of the lines for leakages; viii) a no objection certificate (NOC) by the community and the OPP is sought by SKAA before final payment to the contractor; and ix) supply of tools to the local CBOs for assistance in maintenance of external development.

In the process described above, SKAA engineers have been trained by the OPP-RTI in identifying activists, creating a small CBO (where one does not exist), mapping the settlement and identifying internal and external infrastructure requirements, monitoring and documentation. In the beginning, there was intense interaction and meetings (led by the OPP-RTI Director, Joint Director, technicians and YTP fellows) between the OPP-RTI, communities and the SKAA staff. Many meetings a week were held at the OPP-RTI office and on site for more than five years. Now however, only weekly meetings are held at the OPP-RTI office or an occasional review meeting at the office of the Director General SKAA. Most of the work is now being carried out by the SKAA staff.

So far, documentation of existing sanitation and water supply has been completed in 61 settlements. External work in 29 settlements has been completed by SKAA and internal sanitation comprising 1,144 lane sewers of a length of 221,008 rft exists, laid by the people at their own cost[109].

The lease process has been made a one window affair which is carried out by setting up of a lease camp within the settlement, complete with a registrar for whom office space is provided by the community. The lease money is spent on “external” development which the communities supervise. All accounts are available to the community and as such they know exactly where and how their lease money is being spent.

As a result of the SKAA programme, SKAA has become financially solvent. It requires no funds from external sources for its functioning or for development work. Between 1995 and June 2000, SKAA has recovered Rs 235.2 million (US$ 3.92 million) from lease money. In the same period, it has spent Rs 50.995 million (US$ 0.84 million) on infrastructure development in the settlements from where it has collected lease money. The same amount has been spent of SKAA overhead/logistics, including the training of its staff. Only Rs 10.816 million (US$ 1.802 million) from ADB sources has been used. SKAA’s programme shows that there is no need for dependence on foreign loans for the KAIRP[110].

SKAA’s model has been a turning point for KARIP throughout Pakistan. Recently, the PKAD has also adopted the SKAA model and has sent its staff for orientation and training to the OPP-

[109]. Extracted from OPP progress reports.
[110]. Calculated from SKAA quarterly reports by the authors.

RTI and to the OPP-RTI replication projects in the Punjab. The decision to follow the OPP-RTI model was endorsed by the Governor Punjab after a presentation was made to him of the OPP-RTI and SKAA models by OPP-RTI Principal Consultant and Director General SKAA. Earlier, the UNDP PLUS programme adopted the OPP-RTI model for work in three Punjab cities (Faisalabad, Multan and Gujranwala) where offices were established with male and female social organisers and technicians who were trained at the OPP-RTI office who also helped to coordinate their work for external development. After the project was terminated by the UNDP in July 2002, it has continued through the PKAD. The male and female social organisers who had worked with the UNDP PLUS and were out of a job when the project closed, have established their own NGO, Muawin, which is now working in the Punjab to coordinate the external work government agencies are doing with the internal work that Mauwin is initiating by mobilising communities and providing them with technical assistance. The work of Mauwin began in June 2002 and as such it is too early to evaluate it.

Tasnim Siddiqui has written about his association with the OPP-RTI and in his many presentations has recognised Akhtar Hameed Khan as his teacher and mentor. Much of the lobbying with government agencies for the promotion of the OPP-RTI concept as part of policy has been done by Tasnim Siddiqui. He acquired additional respectability when his project, Incremental Housing Scheme in Hyderabad, was awarded the Aga Khan Award for Architecture in 1998 and later in 2001 when he was awarded the Ramon Magsaysay Award of the Philippines government.

4.5 THE HOUSING PROGRAMME OF THE ORANGI PILOT PROJECT

The Orangi Pilot Project began working in Orangi in 1980. Three years later, in 1982, members of the communities who had worked with it on the sanitation programme, requested assistance from the OPP in improving their houses. Private schools in Orangi also requested assistance for improving their physical conditions and for developing designs for their extensions. By 1983 the requests turned to pressure and this led to the development of the housing programme of the OPP.

The OPP observed that by 1982 over 70,000 housing units had been developed in Orangi without any assistance from the government. Most of these houses were of poor construction and design but it was obvious that a process for their construction was in place. The OPP felt that before developing any housing programme for Orangi, this process should be understood. As a result, a research study was developed. This study was carried out by the students of the DAP at the Dawood College, Karachi. It was completed in 1983. The study aimed at understanding the sociology, economics and technology of housing in Orangi. The study concept was developed by the principal consultant to the OPP and the study was supervised by Architect Perween Rehman who was a visiting teacher at the DAP at Dawood College. In sociology, the study identified the relationship between the various actors in the housing drama in Orangi. In economics, it studied issues related to affordability, cost of material and construction. In technology, it identified materials of construction, their sources, processes of manufacture and use, skills available and their quality, and defects in construction.

The study identified that 93 percent houses in Orangi are built with the financial and technical assistance of the local building component manufacturing yards operated by entrepreneurs. These yards exist in all neighbourhoods. They are known as *thallas* and their owners as *thallawalas*. The *thallawala* gives materials on credit to house builders and sometimes cash credit as well. He also helps in the design of the house; he takes on part contracts for building the house; alternatively he supplies masons to the house builder who wishes to do the unskilled

work himself; and he supplies all nature of building materials at the door of the house owner. In short, he is the architect, engineer, housing bank and supplier of materials for the people of Orangi[111].

Again, 93 per cent houses use concrete blocks for construction. Roofs are initially of galvanised iron sheets and are replaced over the years by asbestos sheets. Even later these are replaced by reinforced concrete slabs with the intention of raising a first floor. It was noted that the foundations and walls can seldom carry the concrete slab safety. Walls crack and the plinth settles as a result[112].

Design defects identified consisted of bad utilisation of space and a lack of understanding on the need for proper ventilation and light. In addition, a number of technical defects were also identified. These consisted of cracks in walls, sagging of roofs, rain water penetration into the house, disintegration of concrete, sulphate attack to foundations and bad detailing of eaves, jambs and corners.

The technical reasons for the defects were identified as: i) Bad workmanship: the masons are not properly trained in their work. If they were, they would be working in the more affluent areas of the city. ii) Lack of technical advice: the masons and other skilled labour working with the *thallawala* need technical advice on the right mix of concrete, curing, proper sizing of support to galvanised iron or asbestos sheets, correct overlaps and slopes to the roof, and water proofing of the walls at the plinth level. This professional advice was not available to them. iii) Bad materials: the aggregates being used were of a poor quality with a fairly large mix of clay. In addition, the Orangi soil has sulphates in it which erodes the foundations.

In addition to these reasons a number of socio-economic reasons for bad work were also identified. These were: i) Bad relationships develop between the owner and the mason during construction. The mason tries to cheat the owner and even if he does not, the owner feels he does. This is because the owner does not know what he should expect as services from the mason or contractor. ii) Tools of construction are provided by the *thalla* and their hire constitutes a disproportionate percentage of the building cost. iii) The majority of people hire a mason for construction and act as unskilled labour themselves. iv) Both the builder and the owner accept that as the house is that of a poor man, substandard construction and materials are normal. v) The unequal relationship between the *thalla* and the owner is a major reason for bad construction[113].

Based on the above findings, certain decisions were taken regarding the future direction of the housing programme. These were: i) On the face of it the OPP could not find an alternative or replacement to the *thalla*. Therefore, it would have to look into the possibilities of improving the functioning of the existing *thallas* or of establishing one itself. But first an understanding of how a *thalla* functioned was necessary. Further research on this was required. ii) The concrete block was the most important building component in Orangi. The possibility of reducing its cost and improving its quality and then introducing this through the *thalla* was essential so that the walls could carry a concrete slab and a first floor safely, and keep rain water out. iii) A roofing system which was as cheap as an asbestos sheet roof and could permit the construction of a first floor on it had to be developed and introduced through the *thalla*. Research for this was also necessary. iv) House builders should be informed as to the existing defects in Orangi houses

111. Third year student's project report, Orangi Housing Primer, DAP-DCET Karachi 1983.
112. Serageldin I, The Architecture of Empowerment, Academy Editions London **(Date ?)**
113. Ibid.

and the remedies for them so that they may supervise *thallawalas* and masons properly when building their homes. For this an extension effort was required. v) Along with advice to *thallas* the people should also be informed of the OPP research results so that they may establish a relationship of equality with the *thallas*. vi) OPP was in no position to operate a loan programme for housing. In addition, it would not in any way interfere in the informal system of land acquisition, development and delivery as it seemed to function to the satisfaction of the communities; and second, it had the involvement of powerful vested interests. In short, the OPP should support the existing system by improving technology and creating more equitable relationships between the actors involved in the housing drama.

After considerable discussion on the results, the OPP team decided not to operate a *thalla* of its own as it did not have the expertise to do so and also it would be against its basic philosophy. Instead it came to an agreement with Raza Sahib, a *thallawala*, whereby it would work with him in developing new materials and techniques of construction. Raza Sahib was a well-known *thalla* operator and had supported the building of "over a thousand homes". He was respected by the people who sought his advice on house building design and construction even if they did not purchase construction materials from him. He never used force for recovering credit from people but used very subtle social pressure. He agreed to experiment with the OPP, first of all because he was a friend of OPP social organisers (he had helped build the house of one) and second because the idea of new products exited him no end. He played an important part in the research and development (R&D) process and his practical knowledge of technical issues and of the Orangi resident's economic and social conditions kept the R&D process down to earth. Without his participation, the architects associated with the process would have produced a sophisticated programme which may have benefited a few Orangi residents but not the housing sector as a whole[114].

The concrete block was improved at Raza Sahib's *thalla* by introducing a mechanized egg-laying machine. This replaced the hand-made system. Extensive research was carried out to miniaturise existing egg-laying machines. The final design was produced in Orangi by the informal sector industries. In addition, concrete mixers (also produced by Orangi informal sector operators by copying factory made ones) were also introduced to replace hand mixing. Proper curing techniques for an adequate period of time were encouraged and a water pump for this purpose was supplied to the *thalla*.

Aggregates being used by the *thallas* were identified as substandard and expensive. Research was carried out as to where cheaper and better aggregates were available and these were used for block making purposes.

A search for an appropriate pre-cast concrete roofing system was launched and several systems developed by government building research stations and those being used by private sector developers were identified. These were found to be too expensive and only suitable for large scale manufacture. Research was carried out to miniaturise the techniques being used in the private sector and to make the process simpler and the components cheaper. This resulted in the development of a system of pre-cast concrete battens and concrete tiles that spanned them. The moulds and technology required for this were introduced at the *thalla*. All components can be lifted and put in place manually and can carry a first floor.

Standard designs were developed for small houses keeping in view the fact that the houses are built incrementally over time. In addition, details of corners, wall junctions, foundations, stair-

[114]. Conversations of the Author with Reza Sahib for well over a decade.

cases and other components of the house were also developed with the active help of Raza Sahib and he was very exited promoting them with his clients. They were also supplied to prospective house builders. For the R&D programme, Architect Perween Rehman, the OPP social organisers, Raza Sahib acted as a team and they were supported by the OPP principal consultant and consulting engineers hired off and on for engineering design advise.

However, it became very clear that the masons of Orangi did not know how to implement the design details that had been developed by the OPP supported programme or to lay the pre-cast roofing components in a manner that would prevent them from leaking at the joints. As a result, a programme of training masons in the use of the new technologies was also initiated at the *thalla* and *thalla* clients were advised to use these masons for the construction, extension and improvement of their homes. The training was given at the OPP-RTI office and at the *thalla* and then, Raza Sahib and OPP technical team supervised the building of a few homes by the masons. As a result of which they were trained on site as well. Now they are training their apprentices.

The R&D for the housing programme began in 1984 and with brief periods of inactivity, was reasonably developed by 1987. In 1988, after the formation of OPP-RTI, it became one of the OPP-RTI programmes. The housing package that emerged as a result of the programme research consists of the following: i) Appropriately designed in-situ concrete foundations for a minimum of two floor construction along with steel shuttering given on loan by the OPP-RTI for casting them. ii) Load bearing machine made concrete blocks and smaller non-load bearing partition walls. iii) Pre-cast concrete batten and tile roofing with a maximum span of 16 feet and a most economical span of 12 feet. iv) Pre-cast concrete staircases. v) Trained masons and design advice from the OPP-RTI. In addition, the extension package also provides advice on the need for proper orientation of the house, ventilation and hygiene related issues of wet areas (toilet and kitchen construction)[115].

Random laboratory tests have shown that the mechanised blocks produced through the OPP-RTI introduced technology have a compressive strength of 800 to 1,000 psi as opposed to 100 to 150 psi for blocks produced by the traditional *thallas*. The cost of the new blocks, however, is about eight per cent higher than the traditional blocks but unlike the traditional blocks they can be used as load bearing walls for in-situ concrete roofs[116].

The batten and tile roof can take a first floor which a galvanized iron or asbestos sheet roof could not. However, it is 20 to 25 per cent more expensive than an asbestos roof and about 50 per cent cheaper than an in-situ reinforced concrete roof which was traditionally used in Orangi to replace asbestos and galvanized iron roofs. In addition, the roof is light and can, with a little bit of stiffening of old concrete block walls, replace existing asbestos and galvanized iron roofs without endangering the old structure. Designs for this have been developed and are extensively in use[117].

Due to the capacity constraints of the OPP-RTI it is not possible to reach every house builder and mason in a population of one million people. For this purpose instruction leaflets focussing on critical issues were published and supplied to house builders and masons either individually or through the *thallas* that adopted the OPP-RTI programme.

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115. OPP-RTI, 92nd Quarterly Report, December 2002.
116. Alimuddin S and Hasan A, The Housing Programme of the OPP-RTI, unpublished paper 1997.
117. Ibid.

Many masons, even though they have been trained by the programme, prefer to advise their clients on building reinforced concrete roofs rather than using pre-cast batten and tile roofs. This is because the profit margin of a mason is much larger when he builds an in-situ reinforced concrete roof and a framed structure. To overcome this, an agreement between some *thallas* and masons has been worked out whereby the masons will get a commission from the *thalla* if his client uses the batten and tile roof[118].

Impact of the Programme: After Raza Sahib's *thalla* was developed with OPP-RTI assistance, three other *thallas* applied to the OPP-RTI for assistance as well. This assistance consisted of giving credit and advice for introducing the technologies developed at Raza Sahib's *thalla*. The credit given to the *thalla* works out to an average of Rs 71,250 (US$ 1,187) for each *thalla*. Since then an additional 46 *thallas* have acquired these technologies through self-financing.

There has been an extraordinary increase in production of blocks due to mechanisation. The Orangi *thallas* have become a major supplier of concrete blocks and batten and tiles to the construction industry in Karachi. This demand was not foreseen when introducing the programme. Between October 1987 and November 2002, the four OPP-RTI financed *thallas* had produced 29.6 million blocks worth Rs 140.63 million (US$ 2.34 million), 60 per cent of which were sold outside of Orangi. Orangi has become a centre for the production of mechanised blocks in Karachi. In Orangi itself about 2500 houses every year benefit from the use of these improved building components[119].

This massive supply of blocks has generated a large number of jobs for Orangi residents. A proper survey on this issue has not been undertaken. The jobs generated relate to transportation, loading and unloading and an over 100 per cent increase in the number of persons employed at the *thallas*. In addition, there has been an increase of about 30 per cent in the wages of the people working at the *thallas*. This is due, not only to an increase in wages, but also due to the fact that labour can work every day as opposed to 15 to 20 days per month previously. It has been estimated by the OPP-RTI that production at the four *thallas* which it supported has gone up by over 300 per cent and the income of the *thallawala* by over 100 per cent[120].

As a result of the housing programme all new construction in Orangi now uses machine made concrete blocks which are not only stronger but larger and hence easier to use and quicker to construct with. Much of the new construction also uses the batten and tile roof, and the foundation, ventilation and other technical details developed by the OPP-RTI. This has not only improved the housing stock but has also increased its value by 15 to 20 per cent.

Issues and Sustainability: The OPP-RTI realised very early that there was no way whereby it could guarantee that proper quality components would be manufactured at all the *thallas*. Random checking of manufactured components at various *thallas* showed that a lot of substandard production was taking place. In addition, OPP-RTI could give technical and design advice to only those house builders who use its technology. However, a substantial amount of construction in Orangi continued to use in-situ reinforced concrete framed structures. Should the OPP-RTI advice these clients as well?

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118. Ibid.
119. OPP-RTI, 92nd Quarterly Report, December 2002.
120. Alimuddin S and Hasan A, The Housing Programme of the OPP-RTI, unpublished paper 1997.

In the beginning, the OPP-RTI designed and supervised the building of homes and other buildings that applied for assistance. However, very soon the OPP-RTI realised that it did not have the manpower resources to cater to the design needs of all the Orangi house builders and without such design support its technology could not be implemented properly and nor could the quality of products at the *thallas* be maintained. As a result of this realisation, the OPP-RTI made the training of para-architects a part of its YTP which is described in Section 4.6 of the study. The OPP-RTI decided to support the trained para-architects in setting up offices of their own so that they could charge a fee and provide design advice and construction supervision to Orangi residents. The first such unit has been established as the TTRC which has so far completed plans and estimates for building and/or improving 182 housing units and 48 schools. (See **Box 4.5.1: The Technical Training Resource Centre**).

Box - 4.5.1: The Technical Training Resource Centre

In 1995, a young man from Ghaziabad, who at that time was a third year commerce student, came to know of the OPP-RTI YTP and joined it. He felt that this would give him a better income than the studies he was undertaking and at the same time he would be able to work for the betterment of his settlement. He completed the 90 day housing course on theory and practice and on the job training on surveying, designing, estimating and site supervision. After completion of the course he stayed on with the OPP-RTI to polish his skills. In mid-1997 Sirajuddin motivated a diploma engineer, Shahid Malik, to join the OPP-RTI as a trainee. On the completion of Shahid's training, the OPP-RTI advised the two to set up a consultancy in Orangi so as to serve low income communities and in the process earn a living as well. In late 1997, they set up SS Consultants. The firm operated from the OPP-RTI offices.

In the beginning clients were not willing to pay for the services of SS Consultants. They expected free service as was being provided by the OPP-RTI housing programme. However, slowly they started receiving requests for designing of houses, mosques, shops and schools and started receiving fees as well. At the same time Sirajuddin started to train young Orangi residents to assist him in his work. In May 2000, he set up his office in a rented room in Ghaziabad, the Orangi settlement in which he lives.

SS Consultants are providing services to a variety of clients including NGOs such as the URC, Faran Education Society, Bright Education Society, Reformers and the OPP-RTI for settlement surveys; design of schools, shops, mosques and homes; and estimates and supervision of construction. Much of the work they get paid for consists of making plans of existing houses for completion of the lease and regularization process of *katchi abadis*. There are other sources of funds that are available to him as well. While at the OPP-RTI, he was taught to save. Fees that was due to him for work that he did while at the OPP-RTI was set aside with the OPP-RTI and has helped him in setting up the TTRC.

In 1999, Sirajuddin enrolled in a diploma course in a polytechnic. Over there he realised that students studying with him would be unable to do practical work once they graduated. He felt that they needed a practical training course. To set up such a course, he linked up with Ashraf Sagar who had also been trained at the OPP-RTI and had set up his consultancy unit called "A-I Surveyors" in 1998. A-I Surveyors have completed the survey of 14 settlements for SKAA and for community organisations to help them in the regularisation process.

The two young men set about organising a training course. It was decided that the course would be of three month duration and would include drafting, quantity surveying, level and plan-table survey, construction and supervision. The fee for the course was set at Rs 1,500 (US$ 25). Abdul Hakim, one of Sirajuddin's teacher, agreed to take the course on construction, supervision and estimation. OPP-RTI provided guidance when required. A leaflet was prepared introducing the course and distributed in different polytechnic institutions. Within a month five students registered. The first training course has been completed and the second course is now being organised.

In 2002, Siraj, on advice from Director OPP-RTI, converted his office into a Technical Training Resource Centre (TTRC). Five teachers work with him now. Two are full time and three are part time. Two of these

are women who have become role models for other women as well. The OPP-RTI has also handed over its masons training programme to the TTRC. The training consists of visiting masons and giving them directions on the TTRC sites where they are working. An endowment of Rs 500,000 (US$ 8,500) has been provided to the TTRC from Homeless International which gives the TTRC Rs 50,000 (US$ 850) a year. This subsidises their overhead costs. The n*azim* of the UC where TTRC is located has plans to use TTRC trained para-professionals as technical support for his UC.

The TTRC is also collecting books on technical matters and gathering information regarding training courses available in the city. Thus, it will be an information centre and a reference library for the young people of Orangi. The OPP-RTI is looking forward to promote many such centres so as to improve the built environment in low income settlements, generate jobs and above all to help in creating a more equitable relationship between poor communities and government programmes without which empowerment and poverty alleviation is not considered possible by the OPP-RTI.

Source: *Interviews of the authors with Muhammad Sirajuddin and Architect Salim Aleemuddin.*

The OPP-RTI's housing programmes administrative and research costs have been funded by the grant that the BCCI Foundation has been giving the OPP yearly since 1980. The amount spent on the housing programme is in the neighbourhood of Rs 250,000 (US$ 4,166.66) which includes administrative, research and monitoring costs and the R&D exercise at Raza Sahib's *thalla*. In addition, credit worth Rs 285,000 (US$ 4,750) for upgrading and mechanizing the four OPP-RTI supported *thallas* was provided by CEBEMO, a Dutch NGO, and the OCT. The credit has been recovered[121].

The following lessons have been learnt from the project: i) Technical and financial support to the informal sector can improve its functioning to an extent that it can serve the formal sector as well. ii) By making relationships more equitable in an existing informal housing process housing quality can be improved and a far larger number of households can be reached than through conventional housing credit and materials programme. iii) Sophisticated technologies can be simplified to an extent that they can be used by small entrepreneurs to develop and market affordable components for low income communities. iv) The major problem of the informal sector low income communities is that they do not receive expert professional advice. Conventionally trained professionals cannot give this advice either since they have little or no knowledge of the processes that are producing housing in the informal settlement. However, if students from professional academic institutions are made to participate in this informal process they can contribute to its betterment in the future.

4.6 EDUCATION PROGRAMME

Since 1983, a few Orangi schools had been requesting the OPP for help in improving their physical conditions. With the establishment of the OPP's housing programme in 1987, it was felt that such support could be given. In November 1989, a survey of schools in Orangi was carried out. Orangi was divided into three zones for the purpose of the survey. Six Orangi school teachers were allocated to every zone and carried out a detailed survey[122]. The survey was supervised by Anwar Rashid, Joint Director of the OPP. The survey results are given in tables in **Appendix 12: Results of the 1989 Schools Survey in Orangi**.

[121]. Ibid.
[122]. Conversations of the Author with Anwar Rashid, March 2003.

The survey revealed that of the 585 formal schools only 11 per cent were government schools and the rest were private schools. Also that 67.5 per cent of all school going children were studying in private schools. In addition, 45.04 per cent of all students were female. 74.86 per cent teachers in private schools were also women as opposed to 50 per cent in government schools.

The survey also established that women teachers in private schools accepted lower salaries and thus made it possible for private entrepreneurs to establish self-supporting schools without charging high fees from the parents. It also established that the presence of lady teachers in the schools removed the traditional inhibition against sending girls to schools. Another interesting find was that 39.8 per cent government schools were co-educational as opposed to 87 per cent private schools[123].

The survey also established how private schools are set up and the problems that they face. The main problems that they face were identified as substandard buildings, absence of playgrounds, grossly under-paid female teachers, most teachers were untrained and the absence of library and visual aids.

However, the advantages were also obvious as a result of the survey. These were: i) Private schools are integrated with neighbourhood communities: a real response to their need and based on their moral and financial support. ii) Being dependent on local support, the administrators of private schools, unlike the administrators of official schools are not unconcerned with parents and guardians. iii) As private schools have to survive in a climate of competition their administrators cannot afford blatant neglect of school premises or school work. iv) Private schools are judged by the parents by examination results. Therefore, the students get better attention and perform quite well in examinations. v) Class sections are smaller and better supervised in private schools than in official schools. vi) The best advantage of private schools is their capacity to grow and expand in a competitive climate[124].

The results of the survey determined the OPP's education programme which was transferred to the OPP-RTI in 1989. The programme consisted of providing technical assistance to upgrade physical conditions in the schools along with loans from the OCT. 399 loans of Rs 12.5 million (US$ 0.208 million) were provided for this purpose[125]. In addition, for improving academic standards the schools were put in touch with organisations providing teacher's training and with organisations that could help them in developing libraries, acquiring audio-visual aids and books and teacher's guides related to them. In this process, a number of organisations became involved with the Orangi schools. These organisations included the Aga Khan Foundation, the Teacher's Resource Centre, the NGO Resource Centre, the British Council and philanthropists who supported these activities with funds. Under the government's SAP, the schools also received funds for upgrading and for acquiring information technology and training for its use. (The OPP institutions were responsible for creating the link with SAP.) As a result, the schools who benefited from this process became self-sufficient and expanded. Some of them set up branches in different parts of Orangi. By 1995, the Orangi schools did not really need the OPP's institutions. However, the people in the lanes with whom the OPP-RTI was working felt that there was a need for new schools and so the OPP-RTI initiated a new programme.

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123. Khan A. H, The Orangi Pilot Project Programs, OPP 1991.
124. Ibid.
125. Hasan A, Working with Government, City Press Karachi 1997.

In its work in sanitation in Orangi and other *katchi abadis*, the OPP-RTI came across a number of educated young persons, many of them college students, who wanted to educate neighbourhood children who could not go to school because of the high fees of the established schools. Consequently, the OPP-RTI decided to support these young persons in setting up schools by providing small grants. According to Salma Mir, the coordinator of the OPP-RTI education programme, a grant of Rs 12,000 (US$ 200) is given to a young person for establishing the school in his house or in someone else's house or on a plot provided by a community person[126]. When there are more than 300 students studying in the school, an interest-free loan of Rs 10,000 to 30, 000 (US$ 166.66 to US$ 500) is provided for the expansion of the school. Once there are more than 500 students, a loan of Rs 50,000 (US$ 833.33) is provided. The OPP-RTI through its connections in the DKA and SKAA helps the schools in getting a plot of land in the *katchi abadis* which has been earmarked for education purposes in the upgrading plan. Teacher's training programme is provided by the Bright Education Society (see Box 3.3: Citizen's Education Related Initiatives in Islamia Colony) and is held at the office of the OPP-RTI. Fifty per cent of the cost per teacher is paid by the OPP-RTI and the rest by the teachers themselves who are very interested in upgrading their teaching skills. Since 1995, when the new programme began, the OPP-RTI has supported the setting up and/or upgrading of 138 small schools. Of these 15 have dropped out and of the remaining 123, fifteen are outside of Orangi. Since April 2001, Homeless International, the UK NGO has provided a grant of Rs 500,000 (US$ 8,333.33) for supporting these schools. The support is to continue with increased funds. A Pakistani philanthropist has also provided Rs 500,000 (US$ 8,333.33) as a revolving fund for physical expansion of schools and 49 schools have so far made use of it.

The educational entrepreneurs who are being supported by the OPP-RTI, are now identifying other small schools that need support. Meanwhile, the OPP-RTI through its links is helping the schools to acquire libraries. As students cannot afford course books for higher education, these libraries can provide books as reference for study. The Oxford University Press Karachi and City Press Karachi have agreed to donate books to these school libraries.

For strengthening the coming together of schools and linking up the training activity, a lecture series has been organised by the OPP-RTI at the OPP-RTI offices. In the past three months, 76 teachers participated in a lecture titled "Dyslexia" delivered by an expert on the subject. Eighty-one teachers attended another lecture delivered by a well-known educationist on "Student-Teacher Relationship". Every year the OPP institutions also hold a forum in the memory of the founder of the OPP institutions. The educational entrepreneurs and school teachers are invited to this forum where they meet community development practitioners from all over Pakistan[127].

4.7 THE YOUTH TRAINING PROGRAMME AND ITS SPIN-OFFS

The initial development of human resources at the OPP has been described at some length in OPP publications and is reproduced as **Appendix 13: The Development of Human Resources at the OPP**. The reproduction shows how through structured weekly meetings the knowledge and vision of Akhtar Hameed Khan was transferred to the OPP staff and community leaders and in the process how social organisers became technicians and technicians became social organisers. It also explains how the knowledge of this interaction has been transferred to communities in Orangi and in Pakistan. However, as the OPP-RTI sanitation programme evolved, it became obvious that the problems of Orangi could not be seen in isolation from the

126. Authors interview with Salma Mir, April 2003.
127. Ibid and from OPP Progress Reports.

rest of Karachi. The housing programme also required para-professionals to overcome the constraints it was facing. As a result, the YTP was initiated in 1993 with support from WaterAid.

The purpose of the programme was to train young people from the communities in surveying, documentation, designing, estimation, construction work, on-site supervision and community mobilisation for the sanitation programme in their respective settlements. For training purposes they (in both water and sanitation) were made to document *katchi abadis* and the *nallas* of Karachi. As a result of this 222 *katchi abadis* have been surveyed. The survey includes the identification of existing infrastructure and details of land-use. In addition, 63 natural *nallas* have also been documented and the catchment area of 41 of these have been surveyed. The five big *nallas* of Karachi will be surveyed in the final phase[128]. The methodology and results of the YTP are explained in **Box 4.7.1: OPP-RTI's Youth Training Programme**.

Box – 4.7.1: OPP-RTI's Youth Training Programme

A youth/activists training program on housing and sanitation is on going. The purpose of the training is to enable the youth/activists to take up work in this field independently. However, OPP-RTI's advisory support continues. The students are matric/intermediate in qualification and are identified through contacts with OPP-RTI members or through local *tanzeems*. Trainees get a stipend during the course.

Eleven students are undertaking survey and documentation of *katchi abadis* in Karachi (outside Orangi). Documentation of sanitation, water supply, clinics and schools in total 222 *katchi abadis* has been completed.

The natural *nallas*/drainage channels have been documented on a Karachi map. The scale of the map is 1: 10000. It is displayed on a wall of the OPP-RTI class room. The map shows a clear picture of Karachi's sewage disposal system. Survey of 100 *katchi abadis* has been published by City Press Karachi. Work for publication purposes on the remaining *katchi abadis* is in progress.

Two students have been trained for plantable survey, mapping and level survey of settlements. On payment from residents and SKAA they have completed plantable survey of 11 settlements. On payment they have completed level survey of three settlements. Their work has led to the formation of a support unit for local communities and SKAA.

The training in housing comprises of survey, designing, estimation, construction and on site supervision. The duration of this training is 90 days. Guidance continues after the training. One of the two trained students is extending services, on payment, in his settlement. His work has taken the form of an office set up in the settlement. He in turn is training youths who are joining the unit. Twelve youths, one in housing, one in surveying and six in survey and documentation are under training on a two year fellowship. Four other students have joined the OPP-RTI team for on the job training.

There are increasing requests from youths to join the programme which has been organised so effective training can be provided to more youth. The senior youths are being encouraged to train and guide the juniors, so that dependence on OPP-RTI team can be reduced.

The training is a process, whereby students get involved in the on going work of documentation of services in *katchi abadis*. This gives them an opportunity to understand and respect the dynamics of peoples work. Students who continue for 6 to 8 months and show the potential for learning are then provided a two year fellowship (instead of a daily stipend a fixed monthly fellowship is provided).

[128]. OPP-RTI, 92nd Quarterly Report, December 2002.

For those who receive the fellowship, effort is made to develop avenues for their continued association in the development work. Observing the success of the housing unit and of the survey/mapping unit, students are beginning to see a future in their work, so are associated on a more consistent basis.

In Sector 10 of Orangi Township, youths who are part of the training program, have successfully initiated tree plantation and solid waste management programs in the settlement. Observing their success other youths have been motivated.

Youths of the housing unit and the survey mapping unit have joined together and initiated a Technical Training Resource Centre (TTRC) in Ghaziabad, a settlement in Orangi Township. They have observed that students who graduate from polytechnics have no viable practical experience and cannot survey or prepare maps, making employment very difficult. Together with their colleagues the two youths have organised the TTRC and are providing practical training to three graduates. Fee is being charged for sustainability.

Two more youth groups, one in Islamia Colony and another in Pak Colony, have come together initiating solid waste disposal and tree plantation programs in their settlements.

Source: *Extracted from OPP-RTI Progress Reports*.

The documentation of the *katchi abadis* by the YTP has revealed that people have laid sewerage lines on a self-help basis in 41.68 per cent of the lanes (4,745 lanes) and water lines in 32.71 per cent (3,723 lanes) investing Rs 117.25 million and Rs 85.20 million respectively. Ad-hoc government work in "internal" development also exists in the form of 4,643 lane sewers and water supply systems in 3,108 lanes. Government's investment has been a total of Rs 100.29 million in this work. Most of this work has been done through councillors funds and without a plan. In addition, the survey of the *nallas* has established that over 80 per cent of all of Karachi's sewage, both of *katchi abadis* and planned areas, flows through these *nallas* into the sea[129].

The documentation of the *katchi abadis* and the natural drainage systems has been responsible for the development and promotion of the OPP-RTI's alternative sewerage system for Karachi, its proposals for the Korangi Waste Water Management Programme (KWWMP), the development of the Orangi *nallas* by the KMC and DMCs, the development work of SKAA on the OPP-RTI model; the formation of a citizen's network on sewage problems of Karachi and citizen's inputs against the KW&SB's proposal for its privatisation, in the view of Karachi civil society, which was compromising the interests of the city in general and of low income settlements in particular. It has also made possible a research study on sewage issues for the Sindh Government Task Force on Municipal Services and has provided clarity for OPP-RTI's work outside of Karachi. The work of SKAA has been explained earlier in the study. The other spin-offs of the YTP are explained below.

OPP-RTI Alternatives for the Greater Karachi Sewerage Plan: The results of the documentation of the *katchi abadis* by the YTP showed clearly that the OPP-RTI concept of "internal" sanitation being built by communities and "external" sanitation being built by the government was valid. In addition, SKAA's work supported by the OPP-RTI, on these principles, has also been very successful. However, the KW&SB's Greater Karachi Sewerage Plan (GKSP), which tries to provide both "internal" and "external" development and take the sewage to its treatment plants has been unsuccessful and its investments, provided through international loans, have not even begun to be recovered, putting considerable strain on the economy of the city and the province.

[129]. Ibid.

According to the OPP-RTI, there are reasons for the failure of the GKSP. It ignores the existing reality that sewerage systems are already in place and are discharging into the natural *nallas* of the city. It tries to take sewage to its treatment plants by building trunks along the main roads. In the process it does not pick up the existing sewerage systems that discharge into the *nallas* and so the trunks remain dry. To link up Karachi settlements with the treatment plants and the KW&SB trunks, the sewerage infrastructure of entire neighbourhoods would have to be dug up and re-laid. This is simply not possible[130].

The OPP-RTI has proposed that the existing sewerage systems, laid formally or informally, should be documented and accepted and that the natural *nallas* of Karachi should be converted into box trunks and treatment plants should be placed at locations where they meet the sea or other natural water bodies. A comprehensive report, "Proposal for a Sewage Disposal System for Karachi" was prepared and published. Research also showed that in 1998-99, KMC subsidy to the KW&SB was Rs 329 million (US$ 5.48 million). With these finances 35 kilometres of *nallas* could have been converted into box trunks and in six years all of Karachi's 200 kilometres of *nallas* could be developed except for the Lyari and Malir rivers and the Korangi Creek. Funds for treatment plants would be in addition to these costs.

On the basis of its proposals for Karachi, the OPP-RTI also proposed alternatives for the proposed KWWMP, which was being financed by a US$ 70 million loan from the ADB and counterpart funds of US$ 30 million from the Sindh government. The OPP-RTI proposal for the KWWMP was simply to accept the present community and KMC built sewerage system and convert the *nallas* which act as its disposal in to box trunks and place a treatment plant at the end of it just before the point where the sewage enters the Korangi Creek. This brought down the cost of the project to within what the Sindh government was to invest in it and made the ADB loan unnecessary[131].

Since 1997, the OPP-RTI has made a series of presentations of its proposals before the KW&SB, government of Sindh departments, the Planning Commission in Islamabad, the Chief Executive, the Governor of Sindh and the ADB. These presentations have led to discussions and debates and as a result of them in April 1999 the Governor of Sindh decided to cancel the ADB loan of US$ 70 million for the KWWMP. It was also decided that the project would be built through local resources and local expertise. A committee was formed by the Governor to develop a conceptual plan for the project. The cost of the project, according to the OPP-RTI plan works out to US$ 15.18 million. However, the plan has still to be implemented.

The KWWMP generated a lot of discussion and debate in the press and among NGOs and CBOs. A meeting of these, which included several Korangi CBOs, was held at the Urban Resource Centre (URC), a Karachi NGO. The meeting decided to make efforts to get a low cost alternative plan implemented. In December 1999, they also sent a petition to the ADB Inspection Committee, which was also signed by hundreds of Korangi residents, upholding the rejection of the loan and requesting an independent review of the project. In the last quarter of 2000, 59 NGOs and CBOs (including OPP-RTI) came together on a common agenda for the city's water and sanitation plans and proposals and produced a position paper. This paper is reproduced as **Box 4.7.2: Citizen's Position Paper on Water and Sanitation Policy for Karachi**. The paper has been sent to the Chief Executive, concerned provincial and federal ministers and departments, Governor of Sindh, external support agencies and their embassies,

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130. OPP-RTI, Proposal for a Sewage Disposal System for Karachi, City Press Karachi 1998.
131. Ibid.

international agencies and local and international universities. The group meets regularly. The group has expressed its concerns over the "unrealistic" Rs 10 billion (US$ 0.16 billion) sewerage project that the KW&SB has recently opposed. Through its contacts the group has come to know that there is no detail plan or estimate for the proposed Rs 10 billion (US$ 0.16 billion) sewerage scheme. The group is meeting to decide the next steps that it needs to take. This process has brought together CBOs representing poor communities, academics, NGOs and elite professionals. It has created an element of "empowerment" among the CBOs.

Box – 4.7.2: Citizen's Position Paper on Water and Sanitation Policy for Karachi

On June 28, 2000, a meeting was arranged between Government of Sindh and various Karachi NGOs, CBOs and citizens on the issue of water supply and sanitation for the city. The workshop was organised by the Government of Sindh: Local Government; PHED; Rural Development & Katchi Abadis Department in collaboration with World Bank and was facilitated by World Bank consultants. The NGOs, CBOs and Citizens handed over a paper and walked out of the meeting for the following reasons:

- The government of Sindh and KW&SB were not represented at this meeting by decision makers. Additional Chief Secretary, Department of Planning and Development, Government of Sindh, was supposed to chair the meeting. The citizens felt that their dialogue had to be with their government representatives and not with the Bank officials.

- The NGOs and Citizens had informed the organisers that they had reservations regarding the manner in which the workshop was being conducted in which individuals were making comments on behalf of various interest groups. The NGOs and Citizens had requested a panel discussion on the subject. However, the organisers did not change the format of the workshop.

- When community members objected to the fact that the decision makers were not there, the facilitators asked them to stay quiet and behave in a civilised manner.

However, there is a background to this conflict. In the water and sanitation sector, the KW&SB has borrowed over Rs 46 billion (US$ 0.76 billion) for development purposes since 1983. It has not even begun to service the loan. As a result, this servicing is done by deducting Sindh government revenues at source, thus, increasingly depriving the province of funds for development. In addition, none of the projects carried out through these loans has been successful, except the sewage disposal project in Orangi, based on the OPP-RTI model. This fact has been confirmed by the ADB (PAA; PAK). 19076-Project Performance Audit Report on the Karachi Urban Development Project (Loan 793-PAK[SF]) in Pakistan, December 1999.

OPP-RTI has developed low cost realistic solutions to the problems of sewage disposal in Karachi. However, these have been rejected by the KW&SB, without seriously considering them or even visiting the OPP sites to see how they work. It is important to note that these very solutions have been applied to similar situation in Japan, Switzerland and other first world countries. These solutions do not require large foreign loans for implementation.
The citizens and NGOs are extremely concerned about his state of affairs and are adamant it should not continue. They insist that a review of KW&SB's and the international loan giving agencies role in this disaster should take place. However, this is something the international agencies are not even willing to consider.

There are a number of changes that the NGOs, CBOs and citizens feel are required to make the loan giving process more transparent and to make it cost effective. These are:

* Projects identified for a loan should be part of a larger program and not isolated ad hoc interventions as they are today.

* Foreign consultants receive over 20 per cent of the loan amount as fees and overheads (in some cases more). They should not be employed since highly qualified local expertise is available and can work at a fraction of the cost.

* International tendering, which is part of the loan conditional ties raises the cost of implementation by anything between 200 to 300 per cent of the local costs. This should be done away with and local contractors be employed for implementation.

* Recovery of loans should be guaranteed from the benefits produced by the project itself rather than from other sources.

* A steering committee of interest groups should review the project at the conceptual stage through public hearings, as to the social, physical and economic viability and need before a request for a loan is made.

* And, above everything else, the loan should be taken if it is impossible to mobilise local resources for the project.

The Government of Sindh and Pakistan must protect the interests of the people of the province and country, and should dictate loan taking procedures and conditional ties in the larger interest of the people of Pakistan. It has to be realised that the debt trap is the biggest cause of poverty in this country and the only way out of it is to live within our means and rely upon the ingenuity and frugality of our people who have managed to survive in an extremely hostile economic environment which has been forced upon us by self seeking governments and the ruthless international market.

Source: *OPP-RTI, 84th Progress Report, December 2000.*

The debate generated by the OPP-RTI's alternatives to the GKSP led to the Governor's Task Force on Municipal Services requesting the OPP-RTI to undertake a study on institutional issues related to the sewerage sector. A report "Sewage, Drainage and Treatment Plants – Responsibilities, Finances, Issues and Policy Changes Needed"[132] was prepared and its conclusions are given in **Box 4.7.3: Sewage, Drainage and Treatment Plants – Responsibilities, Finances, Issues and Policy Changes Needed**. This study is of considerable importance and has formed the basis of an on-going debate within government circles.

Box – 4.7.3: Sewage, Drainage and Treatment Plants – Responsibilities, Finances, Issues and Policy Changes Needed

Study conclusions are:

* At present KW&SB is servicing only about 20 per cent area in Karachi. Servicing means maintenance and renovation of existing system. In these areas most sewage is diverted to storm drains and natural *nallas*.

* KW&SB's role in sewage disposal system development has been negligible. The only known development project undertaken by KW&SB has been upgrading of T.P-I, T.P-II, construction of Baldia sewerage project, Lyari trunks and T.P III, which are all components of the KW&SB's Greater Karachi Sewerage Plan. The functioning of these projects, costing about Rs 4 billion (US$ 0.06 billion) in foreign loans, is questionable as already shown in the case of TP-I, II and

[132]. OPP-RTI, Sewage, Drainage and Treatment Plants – Responsibilities, Finances, Issues and Policy Changes Needed, unpublished report prepared for the Governor's Task Force for the Improvement of Municipal Services, 2000.

Baldia project. In the remaining 80 per cent Karachi area, not serviced by KW&SB, development has been undertaken by KDA, other development authorities, Cantonment Board, KMC, co-operative housing societies, builders and the people themselves.

* Natural *nallas* and storm drains serve as disposal channels for 90 per cent sewage generated in Karachi. In the areas under KW&SB jurisdiction (20 per cent Karachi area), *nallas* and drains are also being used for sewage disposal. In the 80 per cent remaining Karachi area, (including *katchi abadis*) not under KW&SB jurisdiction, the sewage disposal points are the storm drains and natural *nallas*.

* Neither KW&SB nor KMC/DMCs accept responsibility for maintenance/development of these natural *nallas* and storm drains. The result is the consequent overflows and breakdown of the sewerage system all over the city. The KW&SB Managing Director and Foreign Projects Office rejects this reality and persists on imposing a master plan (i.e. the Greater Karachi Sewerage Plan) which has no relation to the existing system in place. KMC's opinion is that these storm drains and natural *nallas* are sewage disposal channels. Therefore it is KW&SB's responsibility to maintain them.

* The KMC, DMCs and KW&SB's sewerage wing (responsible for O&M) are responsive to accepting the ground reality. KMC, DMC's have already allocated budgets for *nalla*/drain trunk development as per Governor Sindh's directive of 3rd March 1999. The KW&SB sewerage wing accepts the ground reality but is helpless due to the KWSB policy.

* For financing the sewerage wing, KW&SB is dependent on KMC subsidy. For sewerage maintenance and repair KW&SB's revenue receipt 1998-99 is Rs 120 million (US$ 2 million) (50 per cent share in conservancy charge) while its expenditure budget is Rs 483.4 million (US$ 8.05 million). The deficit its covered by subsidy from KMC of Rs 275 million (US$ 4.58 million). This subsidy covers establishment, maintenance and repair cost.

* KW&SB sewerage wing budget on maintenance and repair is mostly wasted, which means that KMC subsidy is wasted. KW&SB persists on revitalising a collapsed system, while at the same time it negates the functional drain/*nalla* disposal system. It spends huge sums on renovating and maintaining lane sewers, secondary sewers, and trunk while the actual disposal is neglected.

* KW&SB's dependence on foreign loans for development projects is disastrous for the institution. Presently KW&SB has a loan liability of Rs 46 billion (US$ 0.76 billion), which it has not been able to service. The known sewerage projects executed through foreign loans (as part of the GKSP), costing more then Rs 4 billion (US$ 0.06 billion) have failed to prove their usefulness.

* Inability of KW&SB to service the loans has a negative implication on the budget of Sindh Government and its allied organisations. The DMCs budget allocation due from Sindh Government have been deducted at source on account of KW&SB loans and their servicing.

* Responsibility needs to be redefined. KMC/DMCs are viable organisations to take responsibility for sewage disposal in Karachi. KMC/DMCs are responsive to accepting the ground reality as specified in Governor Sindh's directive of 3rd March 1999. KMC is financially viable. It has the technical and administrative capacity to take the responsibility for developing and maintaining sewage disposal systems. The maintenance and repair wing at KW&SB can function under KMC/DMC. KW&SB is better suited to function as a Water Board.

For the above suggestions to be implemented, no changes are needed in the SLGO (Sindh Local Government Ordinance). However, a Government directive is needed as per SLGO clause, which states that "KMC - DMCs to take up any other role assigned by government."

For KW&SB to be converted into a water board the KW&SB Act needs to be amended.

Source: *OPP-RTI, 84th Progress Report, December 2000.*

The Manzoor Colony *Nalla*: Another spin-off of the YTP was the Manzoor Colony *nalla*. The *nalla* serves as a disposal for sewage and rain water for a large catchment area serving a population of over a million and comprising both planned areas and *katchi abadis.*

In 1990 the NGO-RC introduced the OPP-RTI to three Manzoor Colony CBOs. With OPP-RTI's technical assistance they built their sewage system and disposed it into the Manzoor Colony *Nalla*. After this the CBOs lobbied with the KMC for channelising and developing the *nalla* as a proper disposal point. As a result, the KMC prepared a plan for the *nalla*. The plan consisted of desilting the *nalla*, compacting earth embankments on either side and building roads along the embankments. The width of the *nalla* was increased to between 85 to 195 feet. In the process 850 houses were being displaced. The total cost of the project, along with a resettlement plan for the displaced houses, worked out to Rs 266.7 million (US$ 4.445 million). In March 1996 work for the desilting, embankment and road making components was contracted out and demolition of the homes began. The demolition created a law and order situation. Residents organised themselves with the help of the Idara-e-Amn-o-Insaf, a Karachi NGO which works extensively with poor communities, and formed the Ittehad Welfare Association. The Association sent petitions to the minister of local government and to the elected representatives of the area. A series of demonstrations were arranged at the Press Club between May and July 1996, in which the women of Manzoor Colony also participated. The Ittehad Welfare Association also pointed out that although only 850 houses were being demolished, the KMC had prepared plans for rehabilitating over 3,000 houses. In addition, after the announcement of the plan, outsiders had arrived in the area and built a large number of shacks along the *nalla* and had been issued rehabilitation slips by the KMC. As such, the Ittehad Welfare Association was of the opinion that the entire KMC project was nothing more than a land scam. Meanwhile, a number of other community groups along the *nalla*, who also feared dislocation, contacted the OPP-RTI and requested it to prepare an alternative that could safeguard their homes.

As a result of the petitions and demonstrations, the DC South requested the OPP-RTI to review the KMC design in February 1997 and propose an alternative. The OPP-RTI prepared an alternative plan, which replaced the *katcha* drain by a covered concrete drain whose width ranged from 8 to 24 feet. Its cost was 25 per cent of the cost of the KMC proposal and no houses needed to be demolished. In addition, 7.5 hectares of land from the *nalla* was reclaimed for the KMC. The value of this land was estimated at Rs 271.9 million (US$ 4.53 million).

The KMC plan had been prepared without any proper engineering design or quantity estimates and its drawings simply consisted of a line sketch. The OPP-RTI design on the other hand was prepared after a physical survey and documentation of the area. The catchment area was also determined and the design was related to the available rainfall data for the last 50 years. The plan was presented to the CBOs and was accepted by them immediately. However, the KMC had some objections to the OPP-RTI plan and as a result, a review committee comprising representatives of KMC and OPP-RTI was constituted. This committee adopted the plan after eight months of discussion with some modifications. The work was contracted out in May 1998 at a cost of Rs 93.3 million (US$ 1.555 million). The then Minister of Local Government took a personal interest in this entire process. However, in July 1998, the Minister was removed and in August work was stopped for some unknown reason. In October it began again with a changed design in which the drain was left open, ordinary concrete walls were replaced by reinforced concrete, and the cost was increased to Rs 115 million (US$ 1.9 million). The KMC said that the

design had been changed on the orders of the new minister for local government. However, no document ordering such a change could be located and over 400 running feet of the open reinforced concrete drain was built even though it was an environmental hazard (as all open sewage drains are), technically inappropriate and exorbitantly expensive for what it was. Community activists and the OPP-RTI held several meetings with KMC engineers in efforts to retain the original design. Since these meeting were not successful, the OPP-RTI, which was supposed to assist KMC in monitoring the construction of the drain, withdrew its support.

Residents then sent petitions to the Governor and held meeting with the Chief Secretary Local Government and KMC Administrator against the changed design. They requested implementation of the earlier approved design of the covered concrete drain. The OPP-RTI also participated in some of these meetings and helped in guiding the activists. As a result of these efforts, the Governor ordered the work to be stopped and constituted an inspection team to resolve the issue. In April 1999, the inspection team recommended that the OPP-RTI design should be adopted. Thus, after five years of constant lobbying, monitoring and fighting for an appropriate sewage disposal, and against a powerful lobby of land grabbers and contractors, the Manzoor Colony CBOs had their way and in the process a large area of Karachi, which is served by the Manzoor Colony *Nalla* and contains many high income residential areas, also benefited[133].

Other Spin-Offs: As a result of OPP-RTI presentations, the Governor of Sindh gave a directive in March 1999: *"KMC should develop and upgrade main nallas/drains as sewage and rain water drainage channels, for which budget would be allocated annually."*[134] On the basis of this directive the KMC started work for the development of *nallas* in Orangi. This work is continuing under the city government after the enactment of LCGO 2001. The process has been explained in Section 4.1 of this study. Other town councils of Karachi have also initiated this process.

The main lesson that the OPP-RTI has learnt from the YTP and its spin-offs is that the sewage related ground reality has not been documented in Pakistan and as such it is ignored in official planning. Its documentation completely changes planning perceptions and calls into question existing government planning assumptions and methodologies. Such documentation, not only trains the youth who document it, but also mobilises public opinion which easily relates to the reality which is put before it, since it lives with this reality on a daily basis. This documentation is an important tool for promoting appropriate planning and involving civil society organisations and institutions in infrastructure development issues. OPP-RTI's experience with the YTP and its spin-offs clearly points out that there can be no appropriate macro planning policy without a micro level understanding.

4.8 New Issues for the Orangi Pilot Project-Research and Training Institute

With the expansion of the work of the OPP-RTI and the increasing number of communities and city governments (not provincial planning agencies) from all over Pakistan who wish to replicate the work of the OPP-RTI institutions, a number of new issues have surfaced. These are given below.

OPP-RTI's work is no longer with communities only. It is also advocacy and getting support of communities from all over Karachi for its alternatives. In addition, a large number of students from universities and professional colleges visit the project for orientation and research. To

133. Hasan, A, *Working with Communities*, City Press Karachi. 2001.
134. OPP-RTI, 92nd Quarterly Progress Report, September 2002.

overcome this pressure, the OPP-RTI has established close links with other NGOs and CBOs who now share this work with it. For example, the URC, a Karachi NGO, arranges and coordinates sewage and water supply related meetings of NGOs and CBOs and also arranges for press publications and journalists' visits to OPP-RTI projects. Similarly, another NGO, Idara-e-Amn-o-Insaf, which has close links at the grass roots, is being inducted to organise communities for OPP-RTI supported development. Another NGO, CREED, is looking at international involvement in funding development projects and reform processes. The collaboration between these NGOs has been successful and jointly they may help in bringing about appropriate policy changes. Through their efforts an ADB funded US$ 100 million sewage project (Korangi Waste Water Management Project) was modified and the ADB loan cancelled.

NGOs and CBOs replicating the OPP-RTI model very soon come in conflict with rules and regulations of government agencies or with the methodology of internationally funded projects. The "external-internal" concept is accepted only informally by the government. Many of these NGOs and CBOs lack confidence in stating their position to local government. To overcome this, the OPP-RTI is proposing the holding of an annual congress of all its partners and making it a high profile affair which will present policy alternatives to the government. A separate organisation from the OPP-RTI will be responsible for holding this congress, documenting and publishing its proceedings, and promoting its recommendations.

Once the work of CBOs consolidates they realise that many of their problems are related to larger city planning issues. However, the understanding of these city planning issues and participation in promoting solutions to them can only become possible if there is an active NGO in the city that carries out research on these issues, promotes alternatives, and involves CBO activists in it. Such an NGO exists in Karachi and it has played a major role in bringing people together on various city level issues, see **Box 4.8.1: The Urban Resource Centre**. In partnership with URC, the OPP-RTI has already set up a city development forum. A series of lectures by professionals and resource people have been held at the URC and OPP-RTI to facilitate an understanding of the city so as to strengthening the role of poor communities in its development. Often, CBO representatives attending these lectures ask the speakers to come and lecture in their settlements as well on the same subject. The OPP-RTI has also initiated a programme for contacting CBOs and NGOs in Karachi, see **Box 4.8.2: CBOs-NGOs Contact**.

Box 4.8.1: The Urban Resource Centre

The URC was set up in 1989. Its founders were urban planning related professionals, representatives of NGOs and grass-root community organisations and teachers at professional colleges. They felt that Karachi's official development plans ignored the larger socio-economic reality of the city and as such were unworkable, unaffordable and environmentally disastrous. They further felt that workable alternatives were required and these were possible only with the involvement of informed communities and interest groups.

To promote its objectives the URC identifies the actors and factors that are involved in shaping Karachi's development along with their relationships with each other and with relevant state agencies. In addition, it carries out research on all proposed major urban development projects and analyses them from the point of view of communities and interest groups. This research and its documentation is developed through case studies; profiles of formal and informal organisations and individuals; and by holding forums on different subjects in which the various interest groups (communities, informal service providers, government agencies, political parties) participate. These forums are documented and their results disseminated. This interaction has generated debate and discussion in the press about subjects not discussed before, and brought about substantial changes in how problems and planning are viewed by government agencies and different stakeholders.

Through this process the URC has managed to create a space for interaction between poor communities, NGOs, private (formal and informal) sector interest groups, academic institutions and government agencies. The URC feels that this space needs to be nurtured and institutionalised.

As a result of URC's work, the Karachi Mass Transit Project (KMTP) was modified considerably because of pressure from citizen's groups and was made more environment and cost friendly. Also, due to the information and alternatives supplied to communities living on the Lyari River corridor, the Lyari Expressway, which was going to uproot 125,000 people in 1996 and cause immense environmental damage to the city, was abandoned. The Expressway project was replaced by the northern bye-pass for which the URC has pressed. While the Northern Bypass is being built, in July 2002, the government again decided to build the Lyari Expressway. The URC had been supporting the Lyari corridor communities in fighting the building of the Expressway. Also, the URC's proposal for the extension of the circular railway into Orangi, Baldia, North Karachi and Korangi was accepted by the federal government and made part of the proposal for the revitalisation of the circular railway. In addition, URC's research, negotiations and support to the Karachi transporters has helped them in establishing a more equitable relationship with state organisations. URC's research on the garbage recycling industry, not only documented its economic, physical and environmental repercussions on the city, but has made it one of the major interest groups in the search for a new solid waste management programme for Karachi. Through forums, problems (and their micro and macro level causes) of flat owners, scavengers, theatre groups, commuters, residents of the historic districts of Karachi, working women, wholesale markets, transporters and others, have been identified and documented along with their activists. This knowledge has been disseminated and these groups have also been put in touch with each other and with relevant resource persons and professionals. The result has not only been the beginnings of an involvement of communities and interest groups in the planning process but also an increase in the awareness of planning related issues in society as a whole.

The URC works in close association with the OPP-RTI, the OCT and the DAP at the Dawood College. Its work is published through quarterly reports, monographs and a monthly publication entitled "Facts and Figures" which gives details of what has transpired in Karachi during the last month. URC has a three member staff (coordinator-architect, social organiser and administrator). In addition, it gives one year fellowships to young university graduates and community activists who help it in research, documentation and interaction with communities and interest groups. Through these fellowships the URC seeks to broaden its base in society as a whole. At present is has ten fellows working with it. The annual budget of the URC is Rs 1,200,000 (US$ 20,000).

Source: *Hasan A, and Alimuddin S, Governance, Decentralisation and Poverty Eradication: The View from Orangi, unpublished report prepared for the South Asian Perspectives Network Association (SAPNA), Colombo, 2002.*

It has also been noted by the OPP-RTI that organisations and individuals who come for training to the OPP-RTI use this association for acquiring funding from foreign donors but do not implement the OPP-RTI model or follow its methodology. The OPP-RTI feels used and it is considering steps, including a change in its training procedures, to stop this from happening[135].

OPP-RTI has no problem training and recruiting para-professionals, technicians and social organisers from within the community. However, professional staff is difficult to recruit. The reason is that there is a big gap between conventional professional training and the manner in which the OPP-RTI functions. It takes a long time for a trained professional to unlearn what he has learnt and very few have the patience to go through with it. Increasingly, universities and

[135]. Hasan A, and Alimuddin S, Governance, Decentralisation and Poverty Eradication: The View from Orangi, unpublished report prepared for the South Asian Perspectives Network Association (SAPNA), Colombo, 2002.

professional colleges are associating the work of their students with the Orangi programmes. The OPP-RTI is hopeful that this association will lead to overcoming this issue[136].

Box 4.8.2: CBOs-NGOs Contact

Total 40 CBOs/NGOs in Orangi and in settlements in Karachi were visited. Urban Resource Centre (URC) has joined the program. This quarter 3 more NGOs/ CBOs were visited. Profiles of the groups visited have been compiled. The NGO/CBO initiatives are wide ranging and include water supply, sewerage, solid waste, education, health, law and order (the *chowkidari nizam*), electricity, sui gas, tree plantation, safeguarding amenity plots from encroachment, savings and credit, labour education, rehabilitation of street children, youth resource centres, theatre and human rights. One of the CBO's visited this quarter "Gabol Colony Welfare Committee", has organized water distribution in its settlement comprising of more then 1000 houses. Main line was laid by the government, distribution lines have been laid by the community. Operation of valves was a problem, govt. operator needed regular bribes. Three years back the community held meetings with government officials who agreed that a CBO member would be the valve operator. Though located in a hilly and water shortage area the CBO has effectively managed water supply, repairs of leakages too is managed on self help.

It has been observed that implementation of programs is easy but the issue is evolving a support organisation to sustain these efforts over time. Need has emerged for forums where CBO's can present their work to other NGOs/CBOs. This is seen as a step in confidence building and strengthening them by creating a network.

This quarter a forum (there have been four before) was organized jointly at URC. CBOs 'BES' and Bilal Welfare Trust presented their work. Activists from CBO's participated and discussed their work. BES is spearheaded by three young men. In 1995 they first worked on self help sewers in their community, then water supply, lease, credit for micro enterprise and started a school each, one in a home and two on rented promises. With a little support from OPP-RTI education program and a process of linkages with other NGOs the BES was setup. Three schools were merged into one, an 800 M2 plot was acquired for the school, slowly the school building was constructed. The school now has 250 students and 10 rooms, with a library and a computer room being setup. BES, besides managing its school, coordinates training program with a group of 6 to10 schools. Computer and English language training for local youths is being planned. Bilal Welfare Trust, a CBO in Orangi was setup by a group of educated youths with an area social activist, Muhammad Shafi guiding them. Besides construction of a beautiful mosque in the settlement through self help, the group activities are tree plantation in the settlement, development of a park, savings and support, laying sewerage system and lately initiating a library and credit program. In both the CBO's youths involvement in development and mobilization of local resources was considered as positive activities. More CBOs will be presenting their work in quarterly forums at URC. The presentation gives an opportunity to the CBOs to develop presentation skills and through discussions share their experiences strengthening their work and linkages

Source: *OPP-RTI, 92nd Progress Report, December 2002*.

5. IMPACT AND POLICY IMPLICATIONS

5.1 Impact

The impact of the OPP-RTI programmes has been at various levels. There is the impact in Orangi, in the OPP-RTI replication areas, on civil society and NGOs, on government projects and policies, on donors and donor funded programmes, and on academia.

136. Ibid.

The impact of the OPP-RTI programmes in Orangi has been stated in many publications. Because of the sanitation programmes, "the availability of cleaner and extended space in front of houses had a significant social and recreational impact as well. New and relatively safer play areas for children emerged. Women were able to move around more freely and be visited by friends and relatives leading some to comment that it had improved marriage prospects for young women.[137]" These findings are similar to what 15 persons interviewed at random in the Orangi lanes for this study have said. In addition, they have commented that as a result of the work they have done in the lanes, the value of their properties has increased by upto 30 per cent; they have been motivated to get a lease; they have become aware that they can look after their neighbourhood themselves and plant trees and "come together". Before they were strangers to each other who were often in conflict on issues related to the throwing of solid waste and excreta from bucket latrines into the lanes. Now, they were able to talk each other and seek solutions. They also realise that the CBOs and NGOs that have been created by lane activists are different from the previous ones. They are a part of these CBOs and NGOs since the leadership has been born out of collective work. Interaction with the OPP-RTI and the other resource persons that the OPP-RTI has brought into the neighbourhoods, has increased their understanding of development issues. The scale of OPP-RTI's work in Orangi is presented in the map in **Appendix 14: Map of the Scale of OPP-RTI Supported Underground Sewage Lines in Orangi**.

According to surveys, infant mortality in those parts of Orangi which acquired a sanitation system in 1983 has fallen from 130 per 1,000 live births in 1982 to 37 per 1,000 in 1991. Most observers and official sources agree that the most important factor for this is the construction of underground sewers[138]. Residents interviewed said that they spent much less on curative health than they did previously. Some estimated a saving of Rs 500 (US$ 8.33) per month average, which is 10 per cent of the average earnings in Orangi. Other also mentioned that since their health was better, they did not miss work and lose wages. There was a consensus among four day-wage labourers, that they usually missed two to four days per month due to ill health. Longer periods of ill health were due to malaria typhoid which were common, because of which children also missed school for days on end. The occurrence of malaria and typhoid has fallen considerably[139].

Among the persons interviewed, there was a general consensus that education standards has gone up due to improvements in the schools. There was also a complaint that the established schools charge too high a fee. There was a hope that the new schools being set up with the help of OPP-RTI would maintain a reasonable fee structure. OPP-RTI reports and surveys suggest that the number of schools between 1991 and 2002 have increased by 34 per cent[140].

Six of the fifteen persons interviewed knew about the OPP-RTI housing programme. They felt that it was a better way of improving homes than the conventional way. However, two persons felt that if one had the money, the conventional way was better because "it was modern".

The most important impact of the OPP-RTI programmes in Orangi has been the development of CBOs, NGOs, activists and educated young people who have become involved in the

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137. Zaidi A, From a Lane to the City: The Impact of the Orangi Pilot Project's Low Cost Sanitation Model, WaterAid UK 2001

138. Ibid.

139. Aga Khan Community Health Sciences survey of Hanifabad in Orangi, 1982 and the OPP-RTI health survey of Orangi in 1991 (both unpublished).

140. Worked out by the authors from OPP-RTI reports and surveys.

improvement of their settlements and have developed skills of collective negotiations with government on the basis of sharing development with the state (financing, building and maintaining) rather than just lobbying for it. This has led to contacts with government agencies and resource organisations and has put pressure on the elected UCs. The Orangi UCs now have maps of their areas, prepared by the OPP-RTI, details of existing infrastructure (both social and physical) and can plan scientifically on this basis. They also have active citizen's organisations that can monitor and support the work of the UCs. A strong desire has emerged to turn Orangi into "a planned area" so that the more effluent and educated persons do not leave from here.

In the replication areas, the sanitation programme has produced the same results as in Orangi itself. For instance in Faisalabad, Dr. Naseer a medical practitioner says, "As a result of the sanitation problems, doctors are losing money. They will have to shift to settlements where water and sanitation do not exist, or they will become broke and homeless." Dr. Naseer further reports that water and sanitation related diseases have fallen by over 60 per cent in the neighbourhoods where his patients come from[141]. There are other spin-offs as well. Nazir Ahmed Wattoo, the President of the ASB in Faisalabad, was made a member of the local government's District Development Committee for Faisalabad because of his work in the city and as a result he was able to change a number of development projects for the city from tertiary level to secondary level ones. In Uch, where the OPP-RTI has been working with the Conservation and Rehabilitation Centre (CRC) since December 1998, the CRC has become a consultant on development work to the Uch local government. A similar status is in the offing for two other replication projects. An activist of another replication project (Anjuman Falah-o-Behbood, Rawalpindi), has become an elected councillor and in that capacity is promoting the OPP-RTI "internal-external" model for the whole *tehsil*. In almost all replication areas where sanitation has been built, the local organisations are either engaged in tree plantation and solid waste management, or are thinking of it.

The OPP-RTI's research on Orangi and other informal settlements in Pakistan, and the promotion of its models, has led to a change of perceptions regarding *katchi abadis*. It has made them "respectable". The residents of informal settlements are no longer seen as poor, illiterate, helpless and a burden on society or as criminals for that matter. The reasons for the establishment of *katchi abadis* and the processes involved in them, have also been understood. This understanding has led to a number of innovative approaches to housing, including the incremental housing schemes of the city governments of Hyderabad and Karachi in association with Sahiban, a Pakistani NGO[142]. Many philanthropists and Pakistani donor NGOs have also changed their approach from "charity" to supporting participatory development. Resource organisations and NGOs have also been able to identify reliable community organisations with whom they can work. There is a down side to this as well for as a result, Orangi has become the beneficiary of a lot of attention, which other Karachi informal settlements have not.

Government agencies and local governments have initiated projects based on the OPP-RTI model. Some of these projects, such as SKAA, are being replicated within government. These projects have produced a culture of transparency and accountability. It has also led to a change in government policies on housing, infrastructure, employment and social sectors (at least on paper) and in the government's 8th and 9th five year plans which recommend the integration of

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141. Alimuddin S et.al: The Work of the Anjuman Samaji Behbood and the Larger Faisalabad Context, IIED (UK) 2000.

142. The Incremental Housing Schemes model was awarded the Aga Khan Award for Architecture in 1998 and its author was awarded the Magsaysay Award (the Asian "Noble Prize") in 2000.

the OPP-RTI model into official planning. There is constant pressure now from the new UCs and *tehsil* councils on the OPP-RTI to help them produce maps of their areas on the pattern of the ones the OPP-RTI has produced for the Orangi UCs. Many councils have initiated this work on their own.

Donor agencies have also adopted the OPP-RTI models. The World Bank's Strategic Sanitation Approach (SSA) is entirely borrowed from the OPP-RTI's sanitation programme. The UNICEF's work with the OPP-RTI in Sukkur and the World Bank-SDC's work in Hyderabad, were both the promotion of the OPP-RTI model. The DFID funded Faisalabad Area Uprgrading Project (FAUP), and the UNDP-World Bank Water and Sanitation Programme of the Sindh Pilot Project are also based on the OPP-RTI model. In all of these programmes the OPP-RTI has acted as a consultant and/or a trainer, except for the DFID funded FAUP.

Academic organisations have also been effected by the OPP-RTI work. Many have linked their programmes with work in Orangi. The first of such organisations was the DAP at Dawood College. It has been observed that most of the people working on physical development related community work in Pakistan are the graduates of this institution[143]. The NIPA has also made the OPP-RTI development model a part of its course and made the Director OPP-RTI a member of its Board. This has made a number of bureaucrats supportive of the OPP-RTI model.

5.2 Policy Implications

A number of policy implications have emerged out of the OPP-RTI's work for government, donors and the UN organisations. For government, the most important policy implication is that communities should not be treated as ignorant, destitute and helpless. That the work done by them and by the informal sector that supports them, needs to be documented and mapped and integrated into larger city planning processes. The building of intermediate infrastructure, linking the informal settlements to the city level infrastructure should be a priority rather than building tertiary level infrastructure that in most cases does not connect anything at all. Also, that there is a need of promoting a culture of transparency, account keeping and sharing it with communities and local consultation. Payments for regularisation made by specific communities should be spent with their involvement within their own areas.

Donors have to understand that the poor are not as poor as they think. Also, that community development projects cannot be target oriented. They have to develop at the pace of the community. Activists have to be supported by reliable funds over a period of a decade so that they do not have to compromise their work by looking for alternative sources of livelihood. Donor policy should also promote a culture that is compatible with that of local communities. This means that a show of affluence should be avoided at all costs and that all accounts of the project should be shared with the communities. For the Habitat Agenda, the major policy implication is that there are programmes and projects that have scaled up to an extent that they are influencing government policy. In such cases, there is no need to search for an experiment for alternatives and there is no need for expensive foreign consultants. An important question is, how can the promoters of the UN Habitat Agenda support the process of policy formulation on the basis of what has been learnt from these projects? There is also a need to support existing government institutions in developing the means of making these project concepts and implementation processes a part of their programmes rather than setting up parallel programmes and projects which fizzle out once donor funding is withdrawn.

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143. Ahmed M, From Architecture to Development and Beyond, ArchiTimes 1998.

The major policy implication is that a policy needs to be put in place for governments and donors that makes the participatory documentation of the social and physical infrastructure of informal settlements and their relationship to the larger city infrastructure, a pre-requisite for any intervention. Also, that programmes and projects should evolve out of local consultation. It is important in this context to note that poor communities do not own programmes developed by "others", however participatory, in which they are asked to participate. It is government agencies that must learn to participate in people's programmes and in their existing processes.

6. LESSONS LEARNT

Lessons of a general nature: A number of lessons of a general nature have been learnt from the OPP-RTI programmes and experience. They are given below.

Poor communities incrementally invest in improving their living conditions provided they have a de-facto or de-jure security of tenure. They also invest to establish a de-facto tenure security. Much of this investment is badly implemented due to an absence of sound technical advice. This investment is also not recognised by the state and since it is not documented either, it is not integrated into official plans. If it is documented, and it is large in scale, it becomes difficult to ignore.

Development does not take place with funds alone. It takes place through the development of skills, self-reliance and dignity. The three are closely interlinked and follow each other in the order in which they are mentioned. They make relationships within community, and of communities with government agencies, more equitable. This change in relationships brings about changes in government planning procedures and ultimately in policies.

"Capacity and capability" of government institutions can never be successful without pressure from organised and knowledgeable groups at the grass roots. Such groups can only be created by activists, who have to be identified, trained and supported financially. Formally trained professionals and technicians are not an alternative to such activists. The formation of such groups forces transparency in the functioning of government agencies.

One of the major reasons for disasters in government planning is that ideal plans are made and finances are then sought for them. Often these finances do not materialise. Things would be very different if planning is done on the basis of a realistic assessment of funds that are available, and if an optimum relationship can be arrived at between resources (financial, technical and others), standards and demands, and if planning can recognise and accommodate the fact that all three are dynamic and can change over time.

Community organisations exist all over Pakistan. However, their main function is to lobby government agencies and politicians for development. This development is handed out as patronage and without proper planning and implementation. It is substandard and inadequate. More often than not, it does not materialise. People have lost hope in the lobbying process and are looking for alternatives.

A map of the settlement, or the small town in which replication is to take place, is an essential pre-requisite to planning. The process of preparing a map, identifying existing infrastructure and problems in it, is in itself a motivational exercise. The map changes perceptions about what is required for the settlement or city and relates them to ground realities. It has been observed that

government agencies do not have such plans or the expertise to prepare them and as such their planning perceptions and assumptions are inaccurate.

In smaller towns, municipal authorities have access to sufficient funds for "external" development if the OPP-RTI model is accepted. Local government agencies also have basic engineering expertise and this can be further enhanced by training at the OPP-RTI. A partnership between people and government agencies is possible in these towns. In larger cities where sophisticated engineer-dominated specialised agencies exist, such a partnership is not possible to begin with. However, as sanitation work in a settlement expands, a contact between the CBO carrying out the work and the government's agency in-charge of water and sewerage becomes inevitable. If the replication project is large enough and successful enough, this contact develops into a dialogue and subsequently to mutual understanding, if not to collaboration.

The creation of surveying, levelling, mapping and documentation and planning skills within a community leads to the creation of a more equitable relationship between government agencies and CBOs. People who acquire these skills move on to create institutions around them and this in turn leads to development within the settlement. These institutions become a gathering place for people, activists and dialogue.

In Karachi, where a large number of replication initiatives have been consolidated, CBOs have gone on to do other things and have taken control of their neighbourhoods and settlements. If they are put in contact with each other, they learn from each other and expand their work. If a network of these CBOs is created, and supported by city level NGOs, academics and concerned citizens, it can become a major force in determining policy directions, especially if it can put across its views on the basis of scientific research and planning alternatives. However, this process has to be nurtured.

Once the work of CBOs consolidates they realise that many of their problems are related to larger city planning issues. However, the understanding of these city planning issues and participation in promoting pro-poor solutions to them can only become possible if there is an active NGO in the city that carries out research on these issues, promotes alternatives, and involves CBO activists in it.

Government officials and agencies respond positively if research findings and development alternatives are supported by large scale on site work and large scale public involvement, even though they may have serious reservations regarding the alternatives. Where powerful contractors, consultants and interests of international loan pushing agencies exist, the reservation regarding the alternatives turn into active opposition, as in the case of the ADB funded KWWMP in Karachi.

The informal sector is an important player in delivery of services and financial and technical support to poor communities. This sector operates on a very large scale. Government and donor programmes cannot replace this sector except at a project level. However, they can support this sector through research and extension of technical advice, credit and managerial training. If this is accompanied by increasing the awareness of communities regarding what should be their relationship with the informal sector, then a more equitable relationship between communities and the sector can be achieved. This is what the OPP-RTI housing programme has attempted to do in Orangi.

The number of educated unemployed young people is increasing. If they are provided with required skills and supported to open schools, they not only generate jobs and increase literacy but become an asset to their communities and their area local governments. The OPP-RTI education programme has demonstrated that very small funds are required for this purpose.

Through its work with other NGOs, the OPP-RTI has learnt that large funds for small NGOs result in destroying those NGOs since they do not have the capacity to utilise those funds properly and also because such large funds are seldom reliable. Once they are stopped, the NGO cannot function any more and its activists and staff search for alternative livelihood. In addition, there are always donor agencies and big NGOs searching for smaller grass root NGOs and CBOs who can promote their programmes. In OPP-RTI's experience these smaller NGOs very soon become the implementers of the programmes of the donor rather than developing and sustaining their own programmes.

Conclusions: A number of conclusions have been drawn from the OPP-RTI projects with government and international agencies. Many of these conclusions are documented in OPP-RTI publications and case studies. In addition, a number of principles developed in Orangi have also been confirmed as a result of these project experiences. The most important conclusion is that if innovative projects have to be successful, then they have to be owned by the agencies that design and implement them. This ownership cannot be established simply by donor funding and pressure. In addition, the role assigned to an agency or a project partner should be compatible with its organisational culture and its technical, managerial and financial capacity and capability. These should be assessed before it is assumed that the agency can play this role.

It can also be easily seen that government functionaries who are associated initially with the development of innovative projects have considerable loyalty to them. However, their replacements are indifferent, if not openly hostile, to such initiatives.

The manner in which government agencies function is deeply rooted in well established routines and procedures. Similarly, engineers are educated conventionally and are not interested in innovative work. Thus, the normal functioning of government development work is not disrupted by transfers of officials, but that of unconventional work certainly is.

It can also be concluded that if the lack of trust and hostility between government agencies and residents of low income settlements can be overcome, people are willing to pay lease and development charges. If that happens, the local government's *katchi abadi* upgrading projects can become self-sustaining programmes which will not require any external funding except a small grant to begin with, and which can be used as a revolving fund. However, this trust can only be created if an institutional arrangement to deliver development can be established, in which government agencies, NGOs and communities are equal partners. Various government organisations are not aware of each other's plans and responsibilities, due to which development is hindered. The departments are not aware of the funds that are available to their sister organisations and thus cannot coordinate work between them. The existing arrangements for coordination are outdated and inappropriate. Also importantly, changes and adjustments to programme procedures and directions can always take place to suit new approaches and objectives if the individuals involved have the will to understand each other's point of view, and are decided about objectives and processes. If they are on different wavelengths or have conflicting interests, such adjustments are impossible.

It is essential that the coordinating agency of the programme should be from the government. NGOs and consultants cannot be the coordinators as they have no authority and institutional

links with any other government departments. Even if such authority is given to them, they still are outside the “system”. Moreover, politicians, planners and government agencies have a somewhat incorrect view of low-income groups as lacking resources, fatalistic, easily misled and poorer than what they really are. Low-income groups in Pakistan are a very modern people, aspiring to improve their physical and social conditions and willing to spend their hard-earned money on these needs, but not willing to waste it on substandard and high cost work.

It is also obvious that unforeseen obstacles are encountered in working with government, resulting in delays (for example, the frequent transfer of officials, the disqualification of local bodies by the bureaucracy) and substandard development. And then, there is also a major difference between the culture and perceptions of government and NGOs and CBOs which are not easy to reconcile. Eventually, however, communities that are organised and armed with knowledge, sound technical alternatives and cost estimates, can influence government development plans and force state agencies to perform better in their interests.

A number of conclusions can be drawn from OPP-RTI's experience with SKAA. The most important is that partnership between government, communities and NGOs is possible and effective if the government agency concerned is willing. Also, an enlightened and competent chief executive can revitalise a government agency and can develop and enforce appropriate rules, regulations and procedures.

OPP-RTI has also learnt that many policies and procedures are in place in government, but that good practices are needed. It has observed that government engineers have technical knowledge (though little knowledge regarding communities and processes of development) but they do not perform their technical role due to an absence of accountability and monitoring of their performance.

It is also clear that resources for both “external” and “internal” development are locally available, but they are not tapped or properly utilised. In addition, the cost of government's “external” sanitation work can be drastically reduced by modifying design standards and preparing estimates based on site conditions. Moreover, the quality of government work in “external” sanitation can be maintained through the accountability of government officers and mobilisation of the community to monitor work. It is vital, however, to recognise that community work and institution building around innovative programmes requires consistency. The frequent transfer of government officials makes consistency impossible.

It is misleading, also, to talk in terms of a programme for community participation. Everywhere, communities are already working and investing in a big way to solve their problems. What is required is government's participation in the community's work. Again, one of the reasons for SKAA’s relative success has been the understanding and acceptance of this concept by Director General SKAA.

However, in spite of all the positive aspects of the programme, OPP-RTI has experienced major problems in getting SKAA engineers (and to a lesser extent other staff members), to adopt its method of working. This is because there is a major conflict in the organisational culture of OPP-RTI and the community organisations on the one hand, and of government engineering departments on the other. In addition, the academic training imparted to engineers is not relevant to conditions in low-income settlements or to the concept of community involvement in design and implementation. Also, their training does not teach them to innovate, and without innovation the OPP-RTI research and extension model cannot be replicated.

However, it must be said that a government department can be made to play an effective role provided it has a chief executive who is committed; understands local conditions and analyses his own department's relevance to them; makes the required linkages between his department, communities and resource groups and persons; gives incentives to his staff and builds up team work. He has to also recognise that the knowledge required for this institution-building is not always available in government and has to be acquired from relevant resource groups or individuals. But for this institution building to succeed and a new organisational culture to develop, continuity is essential. With frequent transfers, this cannot be achieved. In addition, it cannot be achieved if there are a large number of project partners with parallel and overlapping responsibilities or in a short span of time.

International Agencies: The OPP-RTI has also reached a number of conclusions through its work with donors and international agencies. These agencies have their own agenda which consists of quantifiable targets and large scale spending. This approach makes it difficult for them to support for any length of time a process of exploration and gestation. And without such a process, innovation and its institutionalisation is difficult, if not impossible. In addition, most donor concepts are based on wrong assumptions. It is assumed that government departments can fulfill the roles that donor projects assign to them simply if training is imparted to them or they are ordered by their higher-ups to perform. The fact that capability and capacity, given the organisational culture of state institutions, cannot be enhanced without the establishment of a process of accountability and transparency, is often overlooked. Donors also manage to impose their own culture on government agencies. This culture consists of impressive seminars and publicity and, in some cases a show of affluence. This not only alienates *katchi abadi* residents, but also makes the project appear "non-serious" to project staff, since seminars, workshops and news are seen as an end in themselves.

There is also the issue of monitoring of donor-funded projects. This monitoring is usually carried out by people who have very little to do with the implementation of the project and its day to day affairs. The result is that this monitoring is no more than policing and creates a conflict between the project and the monitors who are more interested in finding out what is "wrong" rather than sympathetically understanding issues and guiding the project actors.

However, donors have an important role to play. They can positively influence policy and they can provide much needed funds for experimentation. However, to play this role effectively, they must have a good idea of processes in low income settlements, rather than merely the conditions, and the assumptions regarding government agencies and inter-agency relations should not be based on incorrect information or assessment.

It is essential that before designing future projects, donors understand the actors and factors and their relationships which are responsible for shapping conditions in *katchi abadis*. In addition, it is necessary to understand the organisational culture of the government agency involved in the project, its capacity, capability and to involve not only its top brass, but also its site and administrative staff collectively in project preparation.

Questions: The OPP-RTI experience also raises a number of questions. These are given below and their answers would promote a culture of continuous learning in all the actors involved in poverty alleviation programmes in low income settlements.

* Professional advice is necessary both for physical and social sector development. Such advice is not easily available as most professional education is conventional and based on First World models. In Orangi, this advice has been acquired either from graduates of

professional colleges who have associated their work with that of the OPP institutions or through prolonged training at the OPP-RTI. *How can local government acquire appropriate trained professionals and administrators?*

* Success of the models of the OPP institutions are the result of identifying and supporting activists financially and training them appropriately in the field and at the OPP-RTI. *How can local government institutions perform or facilitate this function?*

* Much of success of the OPP-RTI models is related to the small size of the organisations that the OPP-RTI has supported. In engineering and extension terms this small size does not make sense to conventionally trained planners and social scientists who talk about "the economy of scale". *How can a change be brought about to encourage the development of engineering design and implementation procedures by decentralising and miniaturising technology and its implementation procedures so as to make them compatible with social and economic reality?*

* The OPP-RTI model clearly shows that communities who have generated their own funds and managed development themselves, establish a more equitable relationship with local government institutions and take over some of their functions. This in turn leads to their control over the decisions made by their councillors and administrators. *How can the concept of component sharing between communities and government be promoted in the face of gifts and doles handed out to communities by government projects which are usually funded through loans from international agencies?*

* An important part of poverty alleviation is the development of pro-poor planning at the city level and its advocacy. The URC has played this role in Karachi and in the process has promoted the OPP-RTI models. *How can this concept be made an effective part of larger city level planning, thus benefiting the people of Orangi?*

The work of the CBOs also raises a number of important issues and questions regarding them. These are given below.

* Communities living in adverse conditions in urban areas invariably wish to improve their environment. However, they lack the confidence to do so. One or two activists, who have experience of this sort of work, come forward to mobilise the community. In the case of Ghaziabad, these activists were either government servants, small entrepreneurs or had experience of dealing with difficult situations. *How can such activists be identified and supported and by whom?*

* Even after being mobilised and activists coming together, the CBOs require support and guidance from those who have more experience than them. Some members of most low income communities have contacts with people whom they can approach for help and assistance. *How can the relationship between the CBO leadership and the advisors be prevented from becoming a patron-client one?*

* Within all communities, there are people who have skills that can help the development process. These skills are technical, leadership and public relationing related and organisational. *How can right people be made to realise that they have these skills and how can these skills then be used?*

* In the absence of collective decision making, people become dependent on leaders who take decisions on behalf of the community and are open to being bought over by interest groups and the establishment. *How can collective decision making be supported against the leadership's syndrome?*

* Once a CBO is introduced to a support organisation it blossoms with new ideas and even its more passive members start taking an interest in development especially if they can visit areas where communities have done similar work before. *How can support organisations establish links with CBOs and nurture those links without turning the CBOs into dependence?*

* Once communities have a vision and have developed confidence in their ability to work collectively, they can generate finances incrementally. However, they require technical assistance and managerial guidance so that this confidence can develop. *How and through whom can this be provided?*

* The development of development related skills in communities leads to confidence and a change in their relationship with local government institutions. This relationship becomes more equitable as a result. *How can these skills be created and through whom?*

* Once a more equitable relationship with government institutions is established, government officials become more supportive of CBOs, their needs, constraints and as a result projects and programmes become more pro-people. *How can the number of government officials who are supportive of community work be increased?*

* CBOs working at the grass roots cannot take on the local representatives of national political parties and are as such often bullied by them. This pushes them out of formal local level politics. *How can these CBOs meet this challenge and their members be elected as representatives of the people?*

* Community organisations flourish during periods of dictatorship and or when local government is suspended because elected representatives view community organisations as rivals. *There is need to take steps to resolve this issue. But which steps?*

APPENDICES

Appendix - 1

Sources Used for the Preparation of this Study

1. Conversations and interviews conducted for this study.

   1.1 Persons from the OPP Institutions:

   - Architect Parween Rehman, Director OPP-RTI
   - Architect Saleem Alimuddin, Joint Director OPP-RTI
   - Dr. Shamim Zainuddin, Director KHASDA
   - Anwar Rashid, Director OCT
   - Salma Mir, Coordinator Education Programme, OPP-RTI

   1.2 Government and local government representatives:

   - Shahid Saleem, Deputy Managing Director, Planning and Development, KW&SB
   - Suleman Memon, retired Superintending Engineer, KMC-KAD, who worked with the OPP-RTI on the ADB funded KUDP project for Orangi
   - Dr. Shakeel, Nazim UC-6, along with other councilors of his UC
   - Javaid Sultan, Joint Director SKAA

   1.3 NGO/CBO representatives, Orangi and other replication project area representatives:

   - Allauddin Sahib, President Orangi Welfare Project
   - Muhammad Shamsuddin, President Ghaziabad Falahi Committee
   - Abdul Waheed Khan, Bright Education Society, Qasba Colony
   - Muhammad Lateef, Bright Education Society, Qasba Colony
   - Muhammad Sirajuddin, Technical Training Resource Centre, Orangi
   - Abdul Hakeem, Sirajuddin's teacher
   - Nazir Ahmed Wattoo, President, Anjuman Samaji Behbood, Faisalabad
   - Aziz Ahmed Wattoo, Anjuman Samaji Behbood, Faisalabad
   - 15 Orangi residents selected randomly in the Orangi streets
   - Muhammad Younis, Coordinator URC, Karachi

   1.4 Academic Institutions:

   - Professor Noman Ahmed, Head of DAP, NED University, Karachi
   - Professor Asif Nawaz, DAP, Dawood College, Karachi
   - Assistant Professor, Asiya Sadiq, DAP, NED University, Karachi

2. The study also draws upon previous numerous unrecorded/unpublished conversations and interviews. The important ones that have been used are of:

   - Dr. Akhtar Hameed Khan, founder of the OPP
   - Sohail Kizalbash, Secretary General, Infaq Foundation
   - Tasnim A. Siddiqui, Director General SKAA
   - Kausar Bashir Ahmad, Professor Emeritus, DAP, Dawood College, Karachi
   - Dr. Naseer, private medical practitioner, Hasanpura, one of the ASB's project areas in Faisalabad

3. Literature Consulted:

   - Orangi Pilot Project Quarterly Progress Reports: March 1980 to December 2003

- SKAA Quarterly Progress Reports: December 2000 to September 2003
- Government of Pakistan Population Census Reports
- Government of Pakistan Housing Census Reports
- "Working with Communities", by Arif Hasan, City Press Karachi, 2001
- "How Urban is Pakistan", by Raza Ali, Economic and Political Weekly, Volume XXXVII, No. 44-55, Dehli, 2002
- "Urban Change: Scale and Underlying Causes: The Case of Pakistan", by Arif Hasan, unpublished study prepared for the IIED (UK), 2002
- "Human Development Report 2000", by UNDP, Oxford University Press, New York, 2002
- "Governance and Poverty in Pakistan, by Hasan. M.T., Pakistan Institute of Development Economics, Islamabad, 2002
- "Governance, Decentralisation and Poverty Eradication: The View from Orangi", by Arif Hasan and Saleem Alimuddin, unpublished report prepared for the South Asian Perspective Network Association (SAPNA), Colombo, 2002
- "Mapping City Inequality: A Case Study of Karachi", by Arif Hasan and Asiya Sadiq, unpublished report prepared for the IIED (UK), 1994
- "Housing for the Poor", by Arif Hasan, City Press Karachi, 2001
- "Report on the Pakistan Low Cost Housing Project", by ADB, 1989
- "Urbanisation and its Environmental Repercussions", by Beg M.A., unpublished paper prepared for under-preparation IUCN Sindh Environmental Profile, 2003
- "Karachi Development Plan 2000", MP&ECD KDA, KDA Karachi, 1990
- "Understanding Karachi", by Arif Hasan, City Press Karachi, 1999
- "Coastal and Marine Ecosystems", by Shaukat Hayat, unpublished paper prepared for the under-preparation IUCN Sindh Environmental Profile, 2003
- "Evictions", by Aquila Ismail, URC/City Press Karachi, 2002
- "Evaluation of the Karachi Development Plan 2000", by Arif Hasan, unpublished report prepared for the UNDP, 1992
- "NGOs in the Katchi Abadis of Karachi", UNICEF Sindh, 1992
- "The Orangi Pilot Project Programs", by Akhtar Hameed Khan, OPP 1991
- "Community Initiatives: Four Case Studies from Karachi", by Arif Hasan, City Press Karachi 1998
- "The Informal City", by Arif Hasan, paper reproduced in Proceedings of the Regional Seminar on Urban Poverty in Asia, Fukuoka Japan October 1998, UNCHS 2000
- "Reporting on Slums: A Case Study of Karachi, Pakistan", by Arif Hasan and Masooma Mohib, prepared for the DPU, University College London, July 2002
- "Working with Government", by Arif Hasan, City Press Karachi, 1997
- "Akhtar Hameed Khan and the OPP", by Arif Hasan, City Press Karachi, 1999
- "Scaling-Up of the OPP's Low Cost Sanitation System", by Arif Hasan, OPP-RTI 1993
- "Orangi Housing Primer", third year student project report, DAP, Dawood College, Karachi, 1983
- "The Housing Programme of the OPP-RTI", by Arif Hasan and Saleem Alimuddin, unpublished paper, 1997
- "Proposal for a Sewage Disposal System for Karachi", by OPP-RTI, City Press Karachi, 1998
- "Sewage, Drainage and Treatment Plants: Responsibilities, Finances, Issues and Policy Changes Needed", by OPP-RTI, unpublished report prepared for the Governor's Task Force for the Improvement of Municipal Services, 2000
- "Evaluation of a Low Cost Self Help Peri-Urban Sanitation Programme: Orangi Pilot Project, Orangi Town, Karachi, Pakistan", by Abbott, JM and JP Lumbers, *mimeo*, Department of Civil Engineering, Imperial College of Science and Technology, London, 1985.
- "Design of Low Cost Sanitation by Promoting Local Organisation to Adopt an Approach Toward a Process of Sustainable Development", by Afzal, Nadeem, unpublished *mimeo,* Pakistan Institute for Environment Development Action Research, Islamabad, 1999.
- "The Work of the Anjuman Samaji Behbood and the Larger Faisalabad Context", by Alimuddin, Salim, Arif Hasan, and Asiya Sadiq, , Karachi, 1999.

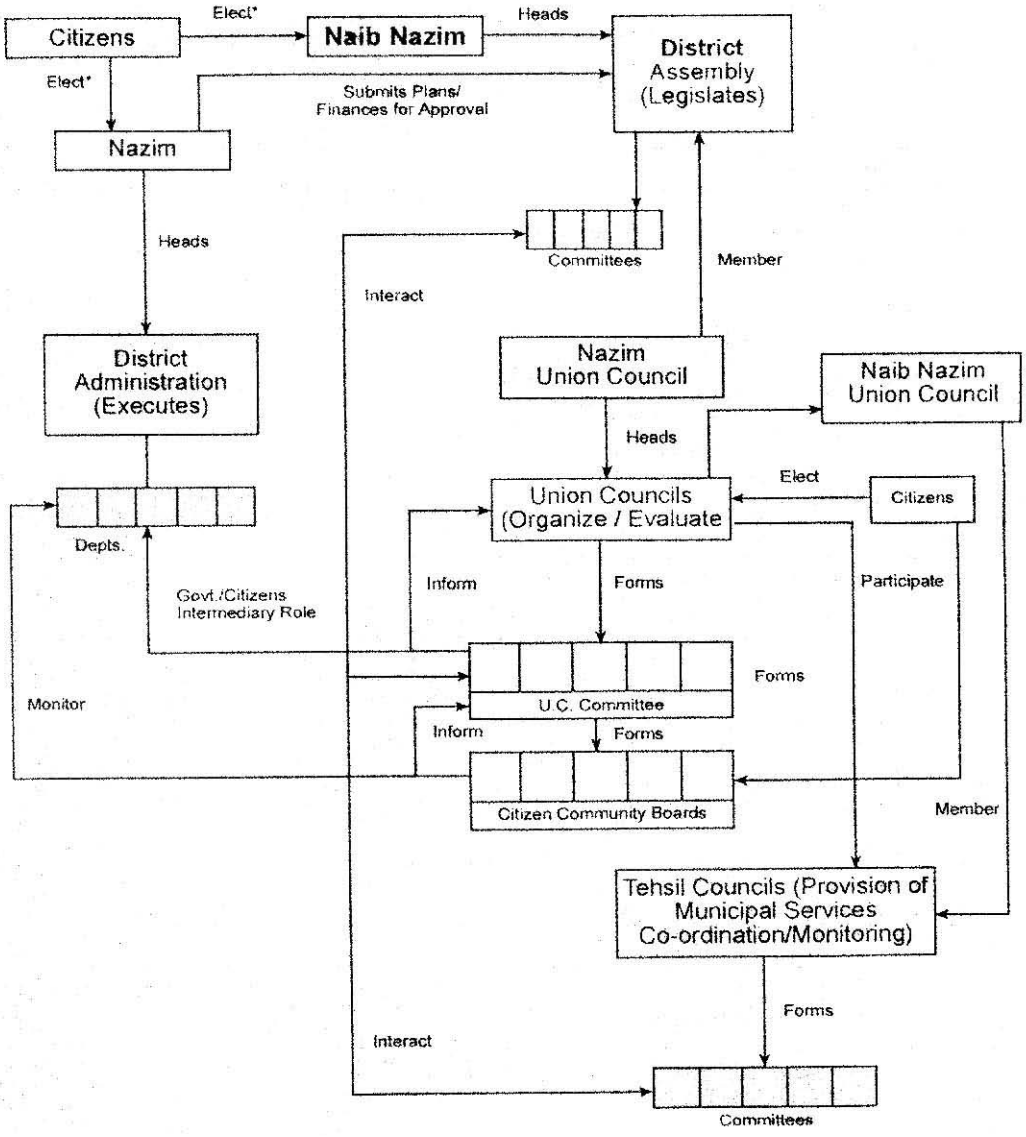
- “Lane Managers in the Orangi Pilot Project Low Cost Sanitation Programme: A Selected Profile” by Development Consortium, Karachi, August 1998.
- “Orangi Pilot Project: Reminiscences and Reflections”, by Akhtar Hameed Khan, Oxford University Press, Karachi, 1996.
- “Community Participation for Mobilising Local Resources”, by Akhtar Hameed Khan, OPP Karachi, 1986.
- “Working With Community: Some Principles and Methods”, by Rahman, Perween and Anwar Rashid, OPP-RTI Karachi, 1992.
- “Infrastructure Upgrading in Pakistan: Lessons from Experience and Directions for the Future”, by Tayler, Kevin, GHK Research and Training, London, 1998.
- “The New Development Paradigm: Papers on Institutions, NGOs, Gender and Local Government”, by Zaidi, S Akbar, Oxford University Press, 1999.

Appendix – 2

Local Government Structure in Pakistan

CHART- 1

PROPOSED LOCAL GOVERNMENT STRUCTURE

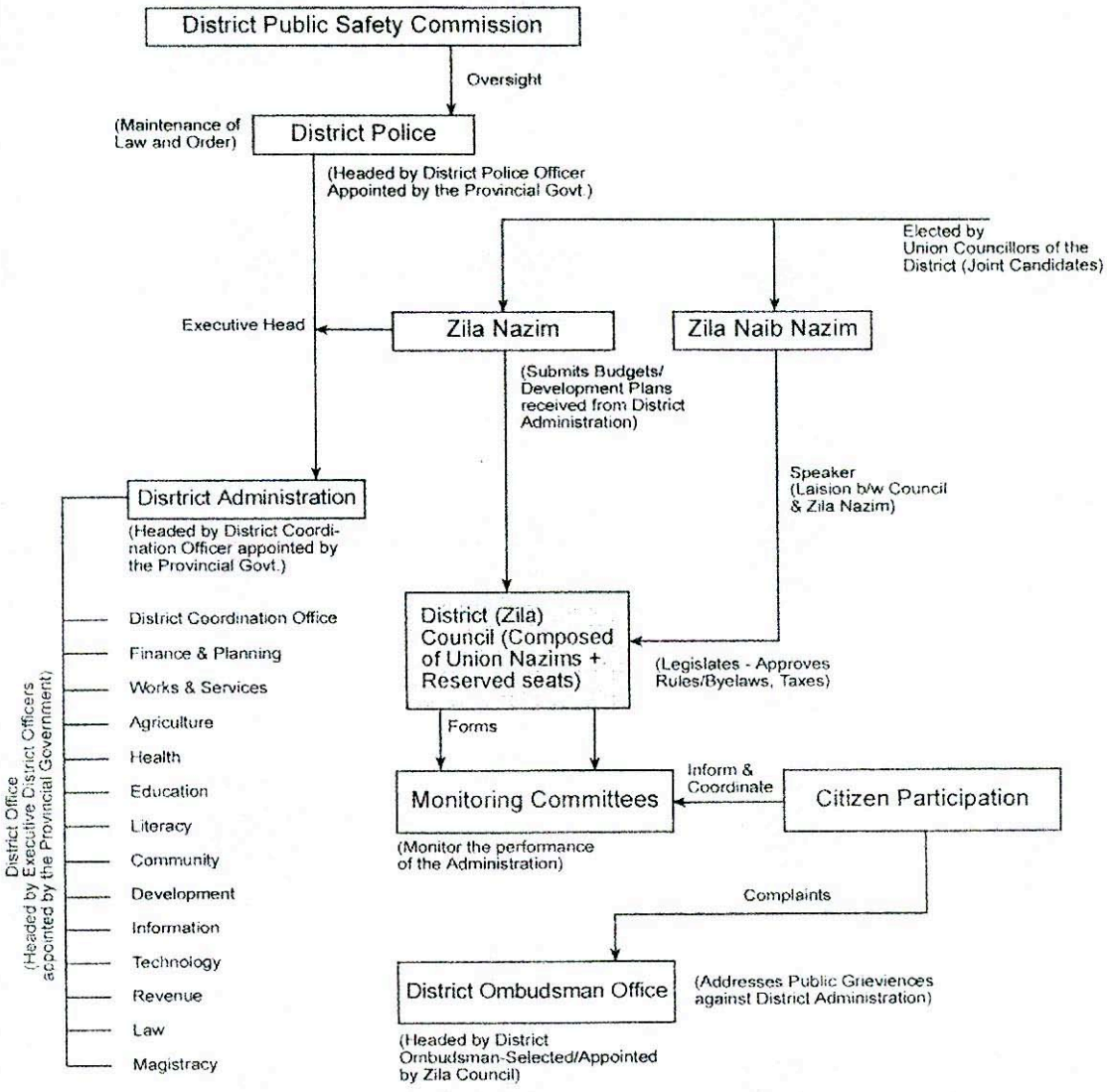


* Through the directly elected union councillors

Source: Shehri Newsletter, May-Aug 2000.

CHART- 2

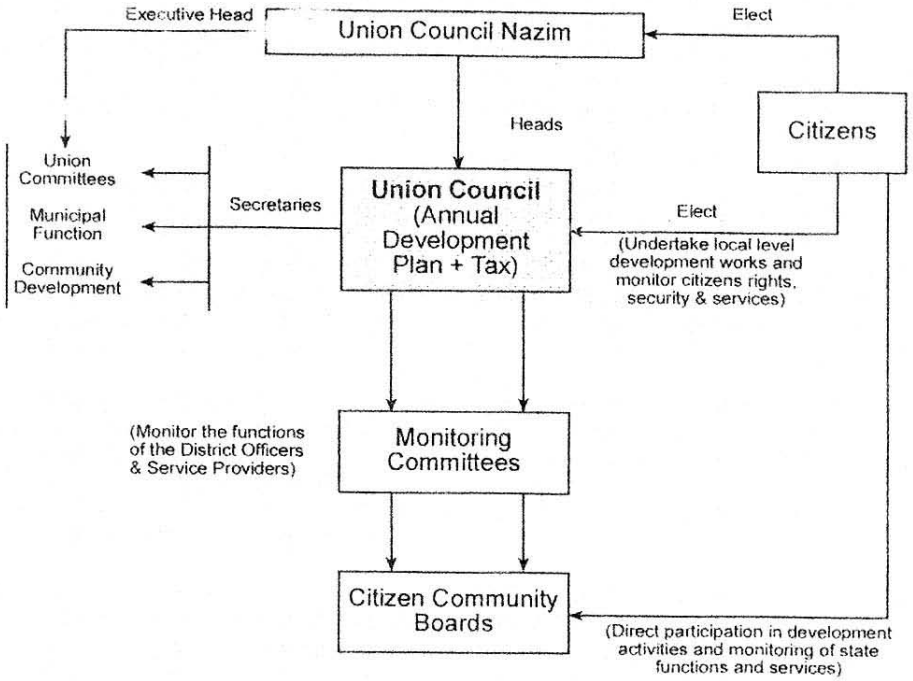
DISTRICT (ZILA) COUNCIL



Source: Shehri Newsletter, May-August 2000.

CHART-3

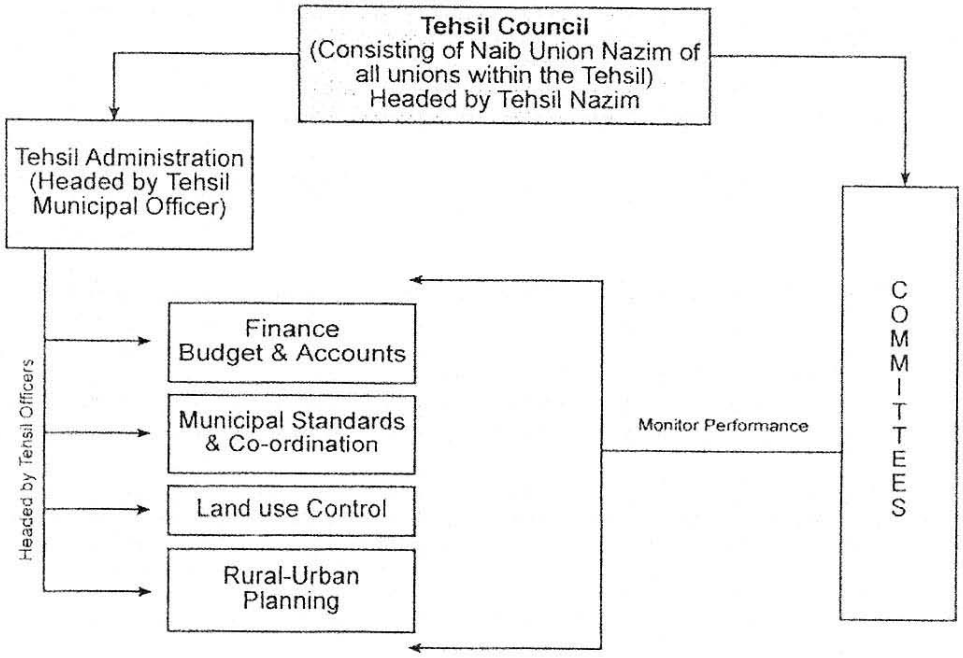
UNION COUNCIL



Source: Shehri Newsletter, May-August 2000.

CHART-4

TEHSIL COUNCIL



Source: Shehri Newsletter, May-August 2000.

Appendix – 3

Poverty in Pakistan

1. Human Development Report 2002, Oxford University Press, NY, 2002

1.1 Pakistan

HDI Rank	138
Life expectancy at birth	60.0
Adult literacy rate	43.2 % (15 and above – 2000)

1.2 Population below Income Poverty Line

-	US$1 a day		31.0 (1983-2000)
-	US$2 a day		84.6 (1983-2000)
-	National poverty line		34.0 (1987-2000)
-	Population using adequate sanitation facilities		61 % (2000)
-	Population using improved water sources		88 % (2000)
-	Population with access to essential drugs		50-79% (1999)
-	Births attended by skilled health staff		20 %
-	Contraceptive prevalence		24 %
-	Health expenditure public sector		0.7 (as % of GDP – 1999)
-	People living with HIV/AIDS		0.11 (% age 15-49 – 2000)
-	Share of income or consumption:		
	* Poorest	10 %	4.1 % (Survey Year: 1996-97)
	* Poorest	20 %	9.4 % (Same)
	* Richest	20 %	41.1 % (Same)
	* Richest	10 %	27.6 R (Same)

1.3 Macro Economics and Poverty Issues

-	Imports of good and services	1990	23 (as % of GDP)
		2000	19 (")
-	Exports of goods and services	1990	16 (")
		2000	16 (")
-	Official Development Assistance (ODA) received	1990	2.8 (")
		2000	1.1 (")
-	Total Debt Services	1990	4.8 (")
		2000	4.6 (")
		1990	23 % (as % of exports of goods and services)
		2000	26.8% (as % of exports of goods and services)
-	Public expenditure on:		
	* Education	1997	2.7 % (as % of GNP)
	* Health	1998	0.7 % (as % of GDP)
-	Military expenditure	2000	4.5 % (as % of GDP)
-	Total debt services	2000	4.6 % (as % of GDP)

2. Poverty According to Local Research

2.1 Sources: Governance and Poverty in Pakistan, by Mian Tayyeb Hasan, Pakistan Institute of Development Economics, Islamabad, Pakistan, 2002

- Poverty in Pakistan has increased from 17.6 % in 1987-88 32.6 % in 1998-99

- Poverty to Opportunities Index : % of population below this poverty line is 47%
  Human Poverty Index : % of population below poverty line is 44%

- In 1963-64 : 2/5 of the population of Pakistan lived below poverty line
- 1969-70 : Poverty increased further to 46.5 %
  1987-88 : Poverty incidence declined to 17.3% (due to higher growth and pro-poor policies)
- 1990's : Even the food poverty increased. It is now estimated that more than 30 % of Pakistan's population is not able to achieve the minimum required level of calorics.
- Unemployment rate increased from 5 % in 1992 to 7.8 % in 2002

Share of the lowest (income) 20 % households feel sharply while those of the highest (income) 20 % households increased

2.2 Source: Social Development in Pakistan, 1998, Social Policy and Development Centre, Karachi, Pakistan

Table

Human Development Index

	Punjab		Sindh		NWFP		Balochistan	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
1975	0.49	2	0.54	1	0.47	3	0.47	4
1980	0.52	2	0.55	1	0.51	3	0.48	4
1985	0.53	3	0.56	1	0.53	2	0.49	4
1990	0.56	3	0.58	1	0.57	2	0.52	4
1995	0.57	3	0.60	1	0.59	2	0.53	4

Source: Social Development in Pakistan: Annual Review 1998, Social Policy and Development Centre, Karachi

Table

Human Deprivation Measures (%)

	Punjab		Sindh		NWFP		Balochistan	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
1975	75.0	2	72.7	1	88.7	3	92.3	4
1980	71.8	2	70.7	1	86.8	3	91.7	4
1985	68.6	2	67.5	1	81.4	3	88.0	4
1990	64.4	1	65.0	2	75.0	3	84.0	4
1994	61.1	2	60.8	1	69.9	3	81.7	4

Source: Social Development in Pakistan: Annual Review 1998, Social Policy and Development Centre, Karachi

Table

GRP Per Capita (At 80/81 Prices) (Rupees per Year)

	Punjab	Sindh	NWFP	Balochistan	Pakistan
1975	2448	3685	2494	2976	2657
1980	2647	3930	2561	2283	2825
1985	3101	4879	2861	2562	3351
1990	3404	5501	3488	2978	3763
1995	4107	5327	3556	3660	4163

Source: Social Development in Pakistan: Annual Review 1998, Social Policy and Development Centre, Karachi

Table

Incidence of Poverty (%)

	Punjab			Sindh			NWFP and Balochistan			Pakistan		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
1975	33.0	17.5	44.9	19.5	12.7	33.6	33.4	22.9	48.8	35.5	19.0	49.8
1980	23.9	11.5	34.1	15.6	8.0	27.3	26.7	13.3	35.4	27.7	11.8	36.2
1985	10.8	9.1	17.5	7.5	4.4	14.4	7.7	5.3	12.6	9.4	7.4	15.2
1990	13.9	5.3	20.8	9.6	4.4	15.7	12.2	3.9	18.5	12.4	4.8	19.0
1994	14.0	2.4	21.5	12.9	2.1	22.1	17.4	3.5	26.7	14.7	2.6	23.1

Source: Social Development in Pakistan: Annual Review 1998, Social Policy and Development Centre, Karachi

International comparisons show that the unit cost of providing social services is much higher in Pakistan than in neighbouring countries.

Unit cost per primary and secondary school enrolment in:

Pakistan	US$ 65
India	US$ 33
Sri Lanka	US$ 36

Cost per unit of health care per person in:

Pakistan	US$ 11
Bangladesh	US$ 7
Egypt	US$ 6

Appendix – 4

Socio-Economic Date, Pakistan

Table - 1

Socio-Economic Data: Literacy (%)
Pakistan

	1951			1961			1972			1981			1998			Total Karachi 1998
	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	
Total literates (%)	18.9	NA	NA	13.6	10.9	33.0	21.7	14.3	41.5	26.17	17.33	47.12	43.92	33.64	63.08	67.42
Male	25.3	-	-	20.1	17.5	42.2	30.2	22.6	49.9	35.05	26.24	55.32	54.81	46.38	70.00	71.17
Female	11.7	-	-	6.1	3.2	21.2	11.6	4.7	30.9	15.99	7.33	37.27	32.02	20.09	55.16	62.88
Per annum Increase in literacy				- 0.53			0.74	0.31	0.77	0.50	0.33	0.62	1.04	0.95	0.94	5.09
Between 10 and 14	NA	NA	NA	28.2	NA	NA	24.8	17.1	44.9	25.97	17.94	45.75	54.70	45.61	72.64	74.72
Male	-	-	-	38.7	-	-	31.4	24.8	49.3	31.33	24.76	48.06	60.87	54.34	74.16	75.22
Female	-	-	-	15.2	-	-	16.4	7.1	39.6	19.63	9.71	43.16	47.66	35.44	70.98	74.17
Per annum Increase in literacy							-0.31			0.13	0.09	0.09	1.69	1.63	1.53	5.22
Between 15 and 24	-	-	-	25.2	NA	NA	30.3	20.7	52.4	35.76	24.52	58.28	53.71	43.56	71.65	73.65
Male	-	-	-	36.7	-	-	41.2	32.5	60.8	45.50	35.79	64.32	65.36	58.96	76.15	76.05
Female	-	-	-	11.8	-	-	18.0	7.5	42.6	24.7	11.99	51.05	41.69	28.16	66.70	70.91
Per annum Increase in literacy							0.46			0.61	0.42	0.65	1.06	1.12	0.79	4.65
Between 25 and 34	NA	NA	NA	13.3	NA	NA	22.7	15.1	42.2	28.58	18.73	50.76	42.54	30.84	62.89	
Male	-	-	-	20.1	-	-	33.6	25.4	53.3	40.29	30.05	61.86	55.24	45.53	70.92	
Female	-	-	-	5.1	-	-	10.7	4.2	28.8	15.78	6.83	37.39	28.83	15.92	53.44	
Per annum Increase in literacy							0.85			0.65	0.40	0.95	0.82	0.71	0.72	

Source: *Government of Pakistan Population Census Reports*.

Table - 2

Socio-Economic Data: Married Population (%)
Pakistan

	1961			1972			1981			1998			1998 Karachi
	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	All Pakistan	Rural	Urban	
Above 15 years:	60.95	NA	NA	68.19	69.53	64.54	68.75	70.58	64.46	63.04	65.58	58.38	56.13
Male	56.03	-	-	63.07	64.33	59.81	65.24	66.97	61.36	59.83	62.13	55.80	53.33
Female	66.80	-	-	74.20	75.49	70.54	72.24	74.56	68.23	66.53	69.17	61.38	59.59
Between 15 and 24:	NA	NA	NA	35.34	37.40	30.57	34.99	35.71	27.07	29.03	32.27	20.09	11.59
Male	-	-	-	18.11	19.58	14.77	21.05	21.04	16.07	47.23	20.00	11.15	10.18
Female	-	-	-	54.89	57.48	48.84	50.74	52.17	41.54	40.61	44.64	29.86	28.19

Source: *Government of Pakistan Population Census Reports*.

Table – 3

Source of Information, 1998: Pakistan

	Total Households	Television	Radio	Newspaper
Total	19,200,000	6,785,821 35.34%	4,599,041 23.95%	4,072,674 21.21%
Rural	12,950,000	3,013,890 23.27%	3,007,409 23.22%	1,743,551 13.46%
Urban	6,250,000	3,771,931 60.35%	1,591,632 25.47%	2,329,123 37.27%

Source: *Government of Pakistan Population Census Report, 1998*

Table – 4

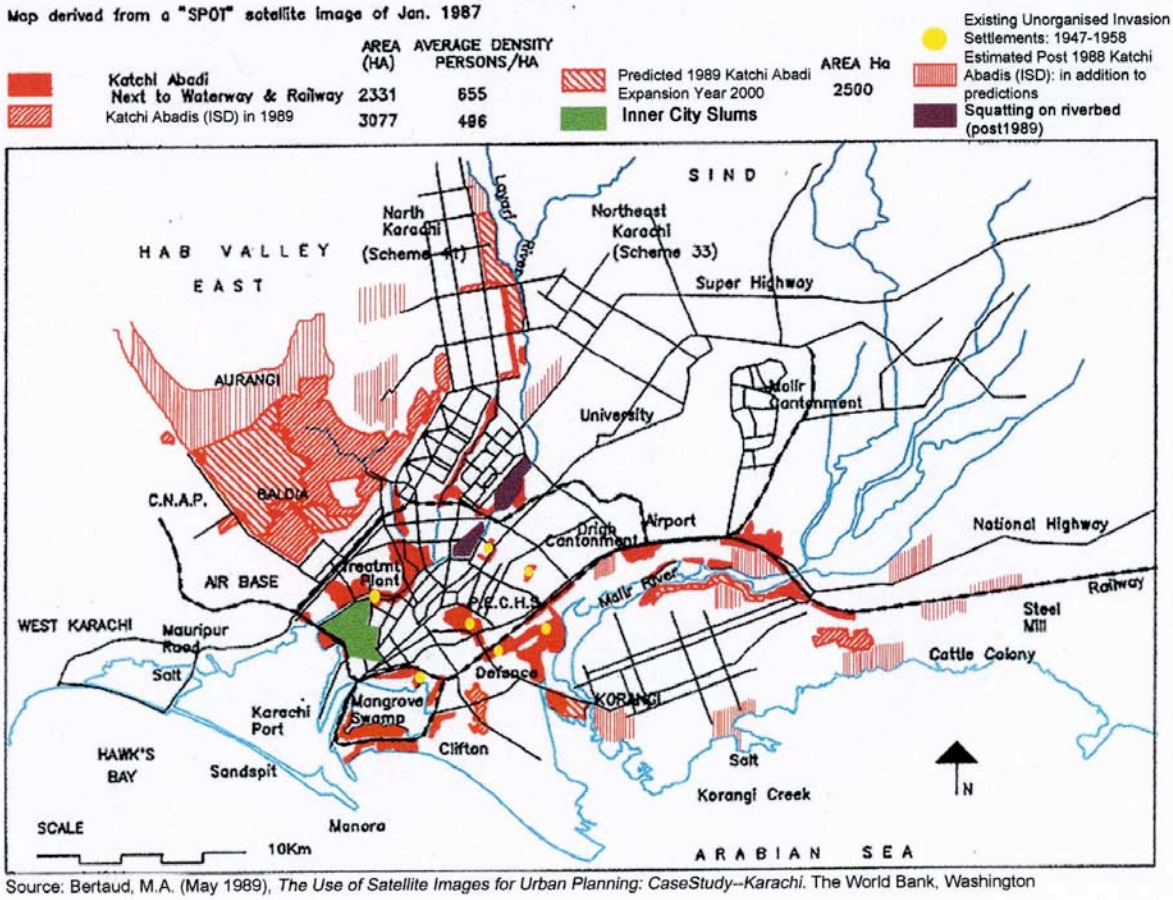
Pakistan: Population under 15 Years

Pakistan 1998	Total		Rural		Urban	
	Actual	Per cent	Actual	Per cent	Actual	Per cent
1981	36,519,208	44.51	27,269,107	46.84	9,250,182	38.8
1998	56,064,747	43.4	38,851,441	45.06	17,213,306	40.08

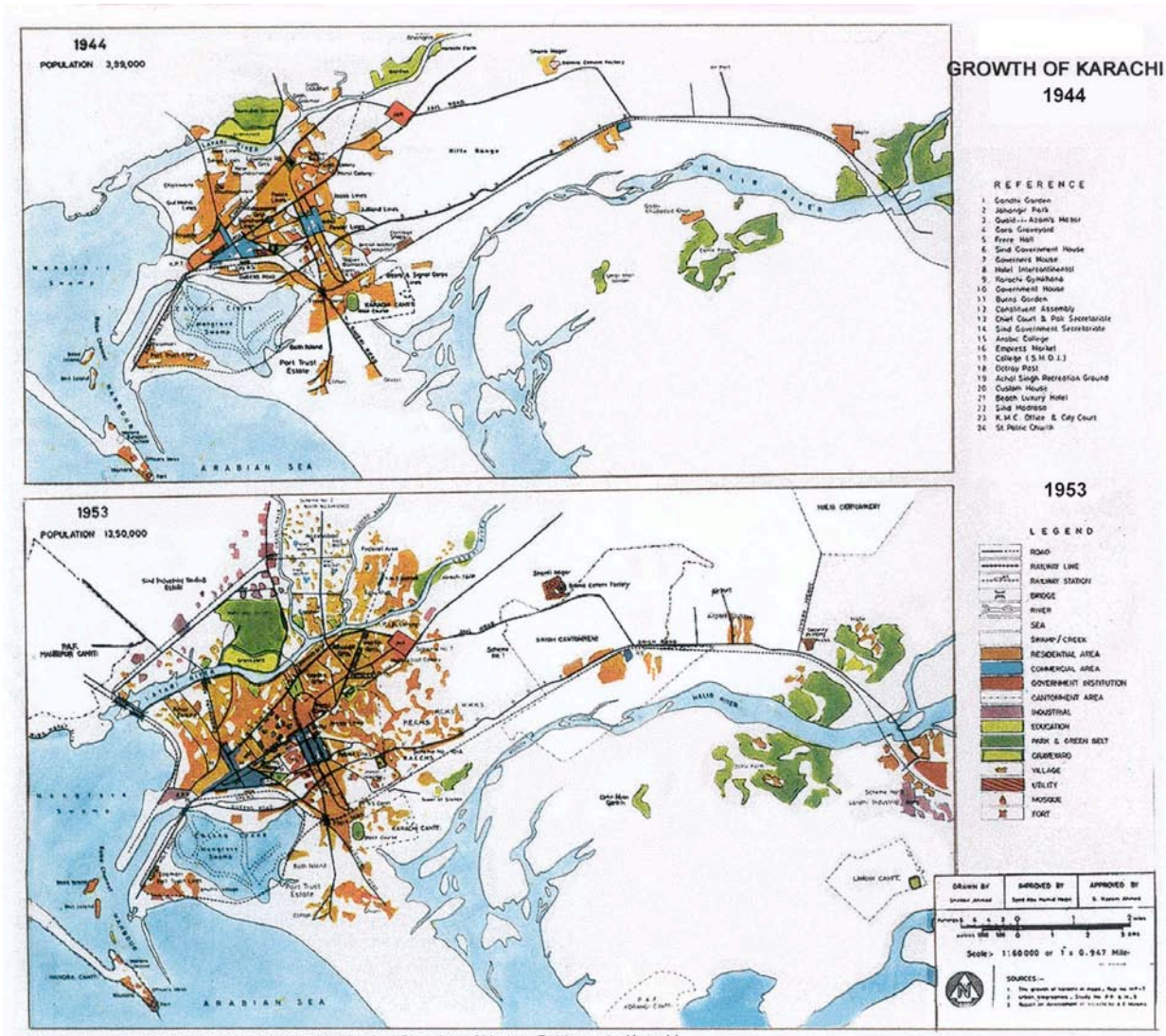
Prepared by Masooma Mohib from the *Government of Pakistan Population Census Reports*.

Appendix – 5

Maps Showing Post-Independence Growth of Karachi



Source: Bertaud, M.A. (May 1989), *The Use of Satellite Images for Urban Planning: CaseStudy--Karachi*. The World Bank, Washington



Source: Faruqui, M.Salman (1982) *Karachi: Physical Situation of Human Settlements*, Karachi

Karachi (Urban): Summary of Socio-Demographic Data

i. Urban Population

	1981		1998	
	Actual	**%age**	**Actual**	**%age**
A. Total Urban Population				
Male	2,829,610	54.33	5,017,877	53.73
Female	2,378,522	45.67	4,321,358	46.27
Total	5,208132	95.77	9,339,235	94.75
B. Less than 15 years of age				
Male	1,111,644	51.69	1,793,364	51.46
Female	1,038,801	48.31	1,691,308	48.54
Total	2,150,445	41.48	3,484,672	37.61
C. Between 15 and 24				
Male	602,175	55.18	1,093,231	53.37
Female	489,127	44.82	955,156	46.63
Total	1,091,302	20.79	2,048,387	21.84
D. Between 25 and 49				
Male	828,289	55.86	1,619,986	56.15
Female	654,539	44.14	1,265,254	43.85
Total	1,482,828	28.46	2,885,240	30.77
E. Between 50 and 59				
Male	151,793	60.01	284,159	56.05
Female	101,134	39.99	222,847	43.95
Total	252,927	4.84	507,006	5.38
F. 50 and above				
Male	135,709	58.84	227,137	54.87
Female	94,921	41.16	186,793	45.13
Total	230,630	4.44	413,930	4.40

ii. Urban Literacy

A. Total Urban Literacy				
Male	1,274,820	61.55	2,764,751	72.20
Female	837,671	50.47	2,040,250	63.94
Total	2,112,491	56.62	4,805,001	68.44
Population between 10 and above	3,730,980		7,020,498	
B. Between 10 and 14				
Male	200,133	56.64	459,691	75.99
Female	182,867	57.16	422,175	75.26
Total	383,000	56.88	881,866	75.64
Population between 10 and 14	673,293		1,165,935	
C. Between 15 and 24				
Male	409,989	68.08	839,273	76.77
Female	313,511	64.10	689,809	72.22
Total	723,500	66.30	1,529,082	74.65
Population between 15 and 24	1,091,302		2,048,387	
D. Between 25 and 49				
Male	514,613	62.13	1,152,927	71.17
Female	290,738	44.42	763,600	60.35
Total	805,351	54.31	1,916,527	66.43
Population between 25 and 49	1,482,828		2,885,240	
E. Between 50 and 59				
Male	85,468	56.31	179,809	63.28
Female	32,147	31.79	97,689	43.84
Total	117,615	46.50	277,498	54.73
Population between 50 and 59	252,927		507,006	
F. 60 and above				
Male	64,617	47.61	133,051	58.58
Female	18,408	19.39	66,977	35.86
Total	83,025	36.00	200,028	48.32
Population 60 and above			413,930	

iii. Urban Marital Status

Married:				
A. Total Urban Married Population				
Male	1008960	59.50	1718571	53.30
Female	880129	64.63	1551452	58.99
Total	1889089	61.78	3270023	55.85
Population between 15 and above	3057687		5854563	
B. Between 15 and 24				
Male	79146	13.14	108241	9.90
Female	183195	37.45	264341	27.68
Total	262341	24.04	372582	18.19
Population between 15 and 24	1091302		1093231	
C. Between 25 and 49				
Male	677130	81.75	1191496	73.55
Female	685243	89.57	1054073	83.31
Total	1263373	85.20	2245569	77.83
Population between 25 and 49	1482828		2885240	
D. Between 50 and 59				
Male	139038	91.60	243738	85.78
Female	72343	71.53	156787	70.36
Total	211381	83.57	400525	79.00
Population between 50 and 59	252927		507006	
E. 60 and above				
Male	113646	83.74	175096	77.09
Female	38348	33.74	76251	43.55
Total	151994	65.90	251347	60.72
Population 60 and above	230630		413930	

iv. Urban Employment

Male	1171507	56.56	1831105	47.82
Female	62847	3.79	111690	3.50
Total	1234354	33.08	1942795	27.67
Population 10 and above	3730980		7020498	

v. Migrant Population in Urban Karachi

Male	997339	35.25	1212882	24.17
Female	701441	29.49	852397	19.73
Total	1698780	32.62	2065279	22.11
Population wrt total urban population	5208132		9339235	

vi. Mother Tongue

	1981 (in Percentage)	**1998 (in Percentage)**
Urdu	54.34	48.52
Punjabi	13.64	13.94
Sindhi	6.29	7.22
Pushto	8.71	11.42
Balochi	4.39	4.34
Seraiki	0.35	2.11
Others	12.27	12.44

Note: 1981 figures are in % households
1998 figures are in % population

vii. Religion

	Muslims	**Christians**	**Hindus**	**Qaddianis**	**Others**	**Total**
Male	5,123,126	113,667	42,384	8,945	6,745	5,306,105
Female	4,382,909	124,905	39,214	8,044	6,379	4,550,213
Both sex	9,506,035	238,572	81,598	16,989	13,124	9,856,318
Percentage	96.45%	2.42%	0.83%	0.17%	0.13%	100%

Source: *Hasan A et. Al: Urban Change: Scale and Underlying Census: The Case of Karachi, Pakistan, prepared for the IIED (UK) 2002*

Appendix - 7

Comparison between Different Income Localities of Karachi

Table – 1

Comparison: Planned and Unplanned Areas

1. Demography

Item	Planned Areas	Unplanned Areas
Average household size	6.9	7.3
%age gender distribution (male)	54.0	65
%age gender distribution (female)	46.0	35
%age population < 20	48.6	56.4
Crude birth rate	1.3	3.6

2. Housing

%age permanent structures	70 – 90	20.0
%age semi-permanent structures	10 – 30	75.0
%age temporary structures	-	5.0
Built-up M2 area per person	19.25	11.59
Rooms per HH	3.2	2.2
Number of persons per room	0.50	3.3
Floor space per HH in M2	131.42	85.82

3. Access to Utilities

%age water connections	83.0	50.3
%age electricity connections	98.4	75.8
%age gas connections	75.3	35.1
%age sewage connections (estimated)	85.0	12.0
%age solid waste management (estimated)	60.0	10.0

4. Education

%age population literate > 10 years	76.0	48 – 67
%age population with primary education	9.5	21.7
%age population with secondary education	19.8	16.3
%age population with intermediate education	11.7	4.3
%age population with bachelor and above	19.1	3.1
%age primary enrolment (male)	87.0	60.0
%age primary enrolment (female)	83.0	49.0

5. Employment

%age population employed	65.7	64.7
%age population self-employed	24.9	25.3
%age population unemployed	9.4	10.0
%age labour force participation	32.0	38.0
%age housewives	31.0	34.0
%age students	29.0	20.0

6. Income

Average income (Rs per month)	3,808 – 4,930	1,899 – 2,158

7. Source of Income

%age earned through wages	50.8	77.7
%age earned through profit	20.2	16.8
%age earned through remittances	10.6	3.6
%age earned through other means	18.4	1.9

8. Expenditure

Average expenditure (Rs per month)	3,083	1,648 – 2,109
%age spent on food	53.0	58.0
%age spent on rent	18.0	13.0
%age spent on medical + education + entertainment	8.8	12.0
%age spent on remittances	1.0	1.0
%age spent on saving	30.0	2.3

9. Transport Usage

%age population walking to work	35.0	34.0
%age population using public transport	36.0	40.0
%age population using private cars	15.5	-
%age population using other modes (bicycles, scooters, para-transits)	15.0	12.0
%age population using circular railway	0.3	0.1

Source: *AERC, Survey of Planned Areas and Katchi Abadis for the KDP 2000, MP&ECD-KDA 1989*

Table – 2

Comparison between Four Selected Karachi Master Plan 2000 Analysis Zones

Item	Lowest level of social indicators (1)	Improved level of social indicators (2)	Medium level of social indicators (3)	Highest level of social indicators (4)
Average HH size	8.1 – 9.0	7.1 – 8.0	6.5	4.1 – 5.0
%age population < 20	61 – 80	41 – 60	41 – 60	21 – 40
Crude birth rate	4 – 6	2 – 4	2 – 4	0 – 2
%age permanent housing	0 – 20	0 – 20	41 – 60	81 – 100
Average built up M2 area per person	17.0	17.0	25.9	43.0
Number of rooms per persons	0.20	0.30	0.5	1.16
%age water connections	0 – 20	41 – 60	41 – 60	81 – 100
%age gas connections	0 – 20	0 – 20	41 – 60	81 – 100
%age sewage connections	Below 25	50 – 80	25 – 50	50 – 80
%age population literate > 10 years	0 – 20	41 – 60	41 – 60	81 – 100
Average income per month in Rs	Upto 1,999	Upto 1,999	B/w 1,999 – 7,500	Above 7,500
%age population employed	41 – 60	61 – 80	61 – 80	81 – 100
%age population unemployed	15 – 20	10 – 15	10 – 15	

Source: *Prepared for an IIED supported unpublished study by Hasan A and Sadiq A: Mapping City Inequality: A Case Study of Karachi, 1994 from KDP data.*

1. An inner city *katchi abadi* area
2. Orangi
3. Lower middle and middle income area
4. Higher and elite area

Table – 3

A Comparison between Different Income Areas of Karachi

	Orangi (1)	Karimabad Colony (2)	Chanaser Goth (3)	Grex Village (4)	Issa Nagri (5)	Azam Basti (6)	Baba Island (7)
Total number of residents	3870	3690	9620	6800	8580	3450	5738
Number of households interviewed	-	-	-	-	-	-	-
Quick count survey	-	-	1340	968	1280	1382	406
In-depth survey	507	729	425	392	400	581	378
Socio-economic Indicators							
Average number of persons per housing units	7.6	5.1	7.2	7.0	6.7	6.9	7.3
Average number of room per housing units	2.0	2.9	1.9	2.2	1.7	2.1	2.3
Average number of persons per room	3.8	1.8	3.8	3.2	4.2	3.3	3.2
% population age 10 + literate	73.0	92.6	64.2	74.0	54.2	67.2	19.9
Average family income per month (Rs)	1490	2400	1565	1670	1535	2310	2309
Average per capita income per month (Rs)	196	470	217	239	229	335	316
% of housing units owned by occupants	90.0	83.0	87.5	75.4	-	-	-
% of housing units having private water connection	23.5	100.0	47.2	9.9	4.6	48.7	0.3
% of housing units having modern toilets (soak pits/flush) facilities	88.0	100.0	81.2	34.5	84.2	85.4	12.4
% of housing units having electricity	60.4	100.0	87.3	74.0	74.4	89.7	88.1
Origin of head of family: Native (Karachi)	0.0	0.0	57.0	50.3	16.3	12.6	-
Demographic Indicators							
Sex ratio (males per 100 females)	113.0	101.0	107.0	104.0	112.0	112.0	99.1
% of population below 5 years	18.4	8.4	20.4	21.4	20.5	19.8	13.6
% of population below 15 years	49.0	28.4	50.1	49.8	46.8	48.2	42.2
% of population above 60 years	4.6	6.8	5.0	5.2	4.2	3.5	3.1
Crude birth rate (per 1000 population)	40.8	16.3	40.5	44.0	44.4	41.0	39.2
Crude death rate (per	9.6	7.3	11.2	14.7	18.4	10.9	20.0

1000 population)							
Infant mortality rate (per 1000 live births)	110.4	33.3	95.0	145.0	143.6	105.0	208.9
Infant deaths as per cent of total deaths	45.2	7.4	34.3	54.6	44.0	35.9	40.9
Child (1-4 years) as per cent of total deaths	5.5	11.1	14.8	11.3	12.0	8.7	3.4
% of currently married women never used FP method	-	4.2	82.2	86.5	83.5	77.5	78.2
% of currently married 15-49 using contraceptive	-	55.7	7.4	6.2	11.7	14.7	13.4

Morbidity and Health related Indicators

% ill for over one week (of those reported ill)	67.7	76.7	65.2	59.0	63.4	63.7	0.9
Major diseases (among those reported ill) %:							
- Malaria/fever	19.2	3.7	11.1	15.1	10.4	21.4	49.6
- Respiratory infection	24.2	25.3	27.0	24.0	25.2	41.5	22.8
- Diarrhea/GIT	17.6	7.7	9.7	13.2	41.5	8.0	16.4
- Hypertension/CVD/ Diabetes/Cancer	3.2	18.9	7.1	8.9	-	11.6	2.0
Health facility utilized (by those reported ill) %:							
- Govt. Hospital/ dispensary	9.7	7.3	12.9	9.0	11.2	26.2	39.4
- Private hospital/ clinics	58.8	63.4	82.1	81.0	40.4	64.9	32.9
- Hakim	1.6	0.6	0.6	2.2	1.4	2.4	1.1
- Homeopath	0.4	2.9	1.5	2.1	1.4	3.0	0.2
- Compounder/ unqualified doctors	3.4	0.3	0.3	4.3	7.8	2.1	11.3
- Faith healer	0.2	0.1	0.0	1.4	0.8	0.2	0.2
- None	22.7	17.6	2.6	0.0	37.0	1.2	14.0
Average expenses incurred on treatment per capita (on those reported ill) Rs	72.0	46.0	99.0	100.0	-	-	-
Cause of death:							
- Diarrhea/GIT/and infectious diseases	19.7	8.0	13.3	22.3	-	21.4	15.7
- Birth related	30.6	3.7	13.3	5.6	-	6.1	2.6
- CVD/stroke	14.0	51.8	26.7	16.7	-	9.2	10.4
- Cancer	5.6	14.8	0.0	11.1	-	3.1	7.0

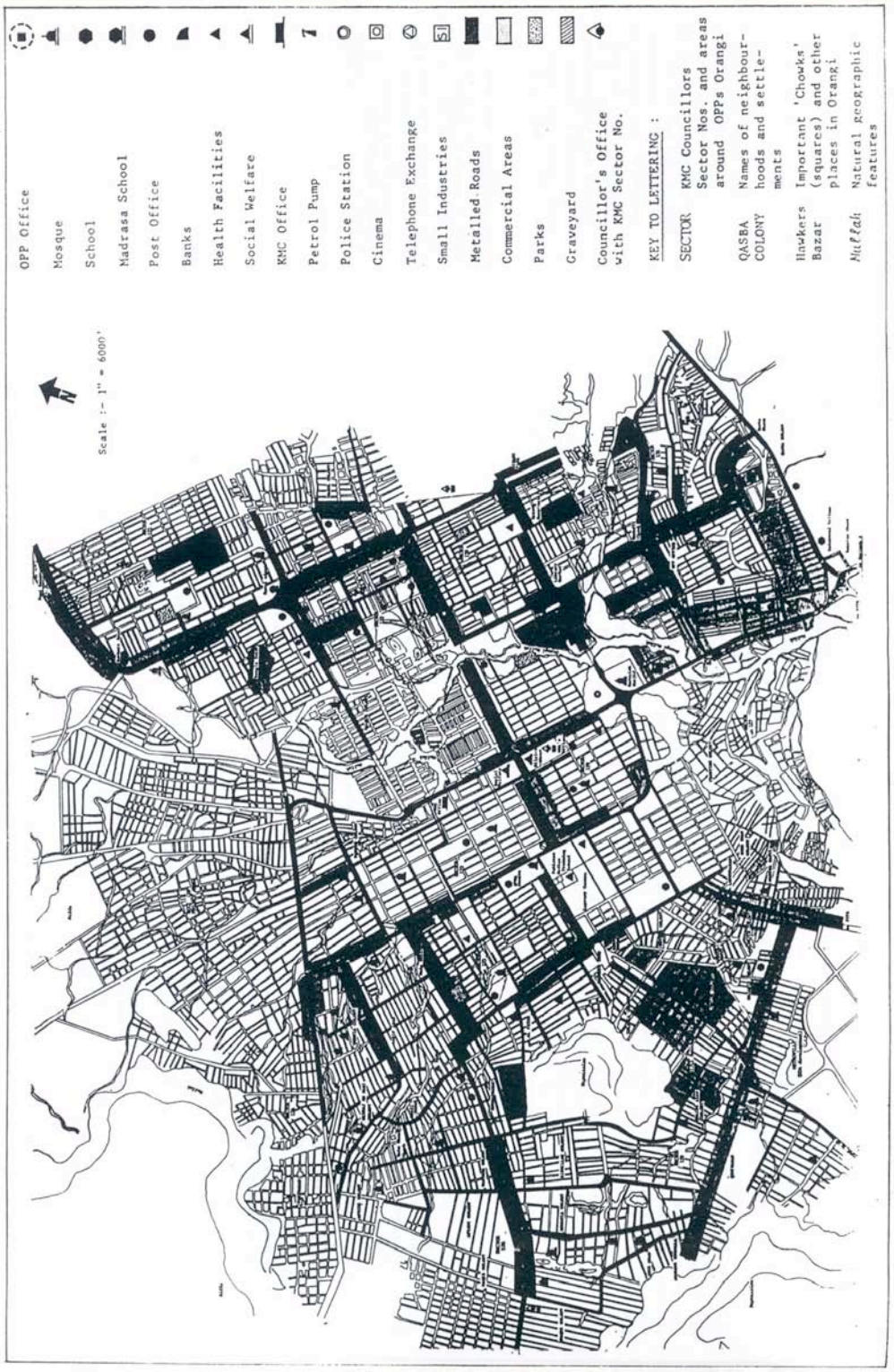
Source: *Findings of Health Surveys by the Community Health Sciences Department, Aga Khan University, Karachi (unpublished report 1989)*.

Notes:

1. A peri-urban *katchi abadi*

2. Karimabad is a lower middle income planned area
3. An urbanised village in the city centre
4. A coastal village now surrounded by informal settlements
5. An informal settlement near the city centre
6. A peri-urban informal settlement
7. An island of fishermen one kilometre from Karachi

Map of Orangi 1987



Appendix – 9

The Logic and Evolution of the OCT's Micro Credit Programme

OCT was fully aware of the hazards of easy lending without collateral to small entrepreneurs. It knew very well that today default and even blackmailing was the prevailing culture both among the rich and the poor. Nevertheless, OCT believed that if OCT behaved honestly and faithfully, the debtors too, in course of time, would respond in the same way.

Let us examine what has happened in ten years in respect of issue of loans and recovery of principal and mark-up, the volume and nature of bad debts, rapid expansion and the problems of management and accounts, the emergence of competent and honest clients, and the achieving of solvency.

From 1987 till 1991, loans were given only in Orangi. From 1990: help to micro-entrepreneurs living in areas outside Orangi was initiated; to small entrepreneurs living in Karachi city; to small farmers, herders and traders of Karachi. For management of selection and recovery the clients were listed in groups and an agent was nominated for each group either from the group itself or from OCT staff.

After four years, the groups have disappointed us. They show great eagerness (except rate exceptions) to disburse loans but much reluctance to make punctual recoveries. With passage of time repayment becomes sluggish and the risk of bad debt increases. We have come to the sad conclusion to stop the issue of new loans to some of the groups permanently and to some temporarily. When they have repaid their old loans, OCT will enter into new and stricter agreements. For the next year or two, OCT will not expand its loan operation outside Orangi. In Orangi more efforts will be made to separate well tested competent and honest clients and accept them only as guarantors. The discretion given to supervisors, agents, or group leaders will be severely curtailed. OCT is in the fortunate position of having more than a thousand well tested honest and competent clients in Orangi who have prospered by competent use of OCT loans. NGOs outside will also have to create similar circles of competent and honest clients and depend on them to serve as role models, guarantors and mentors.

As the purpose of OCT was to establish a self-sustained institution for small entrepreneurs, we anxiously monitored the nature and extent of default. From the very beginning we were determined to prevent stealing and shirking inside OCT and, by setting an honest example, create a circle of honest and loyal borrowers. OCT made it a rule not to conceal or overlook cases of default but to scrutinise them every month. Cases of irrecoverable defaults were promptly written off as bad debts twice or thrice each year. We are carefully analysing all cases of default. Bad debt is as dishonest, failure cases and absconder cases.

Discount cases are those in which the total payment made by clients exceeds the loan principal, which the borrowers were unwilling to pay for three reasons: They did not want to pay mark-up; they had closed their business; or they did not want further relation with OCT. Discount cases caused bad debt loss of 45 per cent of total loan and 80 per cent of total mark-up. Bad debt failure cases are those in which borrower collapsed due to death; or was incapacitated chronic illnesses; or lost their capital by fire, looting, extortion; or became heroin addicts; or were shattered by family disasters. Failure cases are 5.34 per cent of total borrowers. For OCT the financial burden of failure cases is quite small. There are 340 absconder cases, of which approximately 25 are bullies, 25 swindlers and the rest crooked losers. Being fleeced by so many bullies, swindlers and crooks was partly OCT's own fault. In spite of its inexperience OCT expanded its operation. OCT has suffered the biggest loss from 340 absconder cases, which is 2.29 per cent of total loan and 4.45 of total mark-up received. In spite of some slack management bad debt losses have been 6.42 per cent of the total loans.

In the future OCT will give loans mainly to competent and loyal borrowers who have repaid their previous loans. The best of them will be asked to form groups of new applicants under their supervision. Thus, OCT's supervisors will concentrate not on selection, but chiefly on recovery and promotion of autonomous groups for loan management, and joint purchase and marketing. At the same time well tested competent and honest clients are being encouraged to serve as role models, guarantors and mentors.

OCT's objective was not simply to alleviate poverty by giving tiny loans to the poorest of the poor. OCT wanted to provide adequate capital to emerging family enterprises so that they could expand their businesses which were very competitive on account of low overheads and cheap labour, and there was a big demand for their products and services. Most of them were unable to obtain any capital from banks due to formalities, and demands for collateral. With OCT's loans the micro-entrepreneurs got additional investment and working capital to purchase equipment and raw materials, thus increasing production, reducing costs and employing more workers. Those who prospered became role models and teachers for relatives and neighbours. In Orangi, OCT loans have resulted in a spectacular spread of stitching centres (475), consumer stores (1,038) and women work centres (59). Schools and clinics have made improvements with OCT loans (407) and (91).

Source: Akhtar Hameed Khan's unpublished writings, 1997.

A CASE STUDY OF THE GHAZIABAD FALAHI COMMITTEE (GFC)

1. The Ghaziabad Settlement

Ghaziabad is a *katchi abadi* in Orangi, most of which is situated in the hilly part of the Township. The *abadi* comprises six small *mohallas* which are Mujahid Colony, Green Town, Muslim Maiwati Colony, Abu Bakar Siddique Colony, Kashmiri Colony and Christian Colony.

Ghaziabad covers approximately 154 acres of land. The land was owned by the state (CBR land) except for Christian Colony which was owned by the Baloch community who are pastural people. The average plot size is 120 M2. Some plots have an area of 400 square yards. According to government mapping, there are altogether 324 lanes and 3,336 houses. The residents of Ghaziabad do not accept this figures. They say that there are many more houses in their settlement and in the government map these have been shown as vacant so that the government officials may bully the residents to pay bribes to have them regularised subsequently. The map was made after a 1989 survey and was approved in 1991 by the local government. Thus the increase in the settlement between 1989 and 1991 has not been shown either and of course the subsequent increase is missing as well.

Many of residents are immigrants from former East Pakistan (now Bangladesh). These immigrants, known as 'Biharis', settled in Ghaziabad since land was available in this area at a low price. Many even obtained plots of land free of cost as charity from the land grabbers who developed Ghaziabad.

In certain localities, water is provided by tankers and in others from boring. As the subsoil water is brackish, tanker water is mixed to it to make it potable. All the borings have been set up in mosques. Main roads and link roads have been paved by the KMC through councillor's funds. Until recently, houses either had illegal electric connections or received electricity from generators set up by entrepreneurs.

Houses have been built by people themselves with help from small contractors and block makers known as *thallawalas*. They have provided materials on credit (mainly concrete blocks and tin roofs) to the residents They have also provided cash credit on high interest rates. However, things have changed now and due to recession all *thallawalas* want 50 per cent of the cost of materials at the time of delivery. This has lowered the quality and quantity of construction.

The average monthly income per family is around Rs 5,000 (US$ 83.33) with slightly over two members per household earning.

The Ghaziabad settlement started in 1981. At that time there were 20 to 28 Bengali families living in houses made by placing a tin roof over the sides of ditches. Most of the area was lying vacant until it was grabbed by the local *dallals* (middlemen). The *dallals* had strong connections with the police and KDA officials due to which this development was made possible.

The people bought the land from the *dallals* at prices ranging from Rs 200 to Rs 1,200 (US$ 3.33 to US$ 20) for 120 M2. Till 1983 there were few inhabitants. Gradually, however, the area started filling up. The majority of the early settlers were construction workers, masons, factory workers, labourers and a few shopkeepers.

Christian Colony was settled in 1982 by Father Richard D'Souza of Catholic Relief Services, who bought the land from the local Baloch community. He arranged for the resettlement of 100 Christian families from Kutch (interior Sindh) who had been uprooted by floods in 1981. Each family paid Rs 100 (US$ 1.66) per plot. Later, other Christian families from Karachi also settled in Christian Colony. Today, there are about

500 Christian families in the colony. The activities and role of the priest and other Christian organisations are restricted to this area.

In the early days of its settlement, the area was deprived of all basic services and facilities. It was not really a place where people could live. But having no other alternative, people began to settle here. There were 200 to 250 houses scattered all over Ghaziabad. Mohammad Shamim Akhtar, an activist of the area, describes the difficulties and problems faced by the earlier settlers: "Initially we faced enormous problems for water. We had to go to Sector 14, Shah Faisal Chowk, two kilometres away, to fetch water for daily use." The water was bought from people who had water connections and it cost Rs 3 (US$ 0.05) per canister.

Mohammad Shamsuddin, another activist recalls, "At that time there was no water and sewerage system. People excavated ditches near their houses where the sewage collected. The cost of construction of a proper soak pit was Rs 1,200 to Rs 1,300 (US$ 20 to US$ 21.66). There were no sweepers (cleaners) to clean them. We were very worried with this situation."

Over the years, the residents have constructed their houses incrementally from their savings or with credit received from the *thalla* (cement block manufacturing yard). They also acquired technical help from the *thalla*. Most houses have two rooms, a toilet, kitchen and courtyard. At present, the sale price of a house is approximately, Rs 100,000 to Rs 200,000 (US$ 1,666.66 to US$ 2,333.33). People have invested Rs 25,000 to Rs 40,000 (US$ 416.66 to US$ 666.66) including land cost, to develop their houses. There is no vacant plot available in Ghaziabad at present.

Initially, the residents of Ghaziabad were factory workers and day wage construction labour. However, in 1987 there were ethnic riots in Aligarh Colony, another settlement in Orangi, which was inhabited by Banarsi weavers (artisans from Banaras in India who migrated to Karachi in 1947 as a result of the partition of India. Some of the weavers migrated from Aligarh Colony to Ghaziabad and set up their looms over here. The weavers trained the locals in this work and as a result 60 per cent of the residents of Ghaziabad are self-employed. An average of five houses in each lane have small artisan production units of Banarsi weaving, leather works (shoe making, purse and wallet making), *zari* works and embroidery. All this is the result of Ghaziabad's association with Aligarh Colony and the middlemen who finance the artisans over there. A weaver is paid Rs 200 (US$ 3.33) per day but then he seldom has work throughout the year.

These small enterprises are also training centres for community members. They were started with a small capital from the savings of the owners or from finances made available by middlemen. Young people from the area join these home-based production units and pick up skills through a process of learning-by-doing.

Initially, the trainees work without any wage for two weeks to four months, depending on the nature of product. After the initial period of learning, they normally earn Rs 25 to Rs 75 (US$ 0.41 to US$ 1.25) per week. Their income gradually increases as time passes. The trainees start at the age of 12 to 15 years, and within two to four years graduate to become full artisans. Then they start their own production units. Due to the non-availability of credit, they depend on middlemen for funding and this reduces their earnings considerably.

There are six primary schools and five secondary schools in the settlement. All the schools are owned by the private sector. There is no government school in the area. There are eight private clinics.

2. Formation of Local Organisations

2.1 Anjuman Falah-o-Behbood, Ghaziabad

In 1981, a few people, Fakhre Alam, Hamid Raza, Murtaza Pir and Haji Hanif, all friends, joined hands with the ward councillor and held a meeting with the officials of KDA and KMC regarding the problems of the area. To increase effectiveness in lobbying with official agencies, they decided to form a *tanzeem*

(organisation) under the name of Anjuman Falah-o-Behbood, Ghaziabad. This was the first local organisation in Ghaziabad.

Hamid Raza and Fakhre Alam who were the joint and general secretaries of the *Anjuman*, claim the objective of the *Anjuman* was to register the residents in the voters' list, to obtain the approval of a water tank for the area from the KMC, and to resolve disputes among the residents.

There was a reason for registering people in the voter's list. The organisation felt that if the residents were registered then the local politicians would be interested in getting their votes and for this reason they would be interested in developing Ghaziabad. The organisation held meetings to explain this to the residents and also went door to door to canvas for their support. However, to be listed as a voter, a national identity card (NIC) is required and many residents did not have it. As such, a committee was formed by the *Anjuman* for the purpose of facilitating the necessary paper work required for being enlisted in the voter's list.

The Committee consisted of two of members of the *Anjuman*. They acquired the NIC application forms in bulk, helped the residents fill them and arranged for the necessary attestations and submitted them on behalf of the residents.

To get the above done and to be included in the voter's list, the *Anjuman* invited the Sub-Divisional Magistrate (SDM) of Orangi and the Deputy Commissioner (DC) of District West (in which Orangi was then situated) to visit their area. The invitation was extended in the month of *Ramdhan* (the Muslim holy month of fasting), because the *Anjuman* felt that in this month people are more prone to "do good". The SDM accepted the invitation and the meeting was held in the Ghaziabad mosque for *Iftar* (when a meal is served for breaking the fast) in the evening. About 70 to 80 people attended the meeting and the SDM joined them for the *Maghreb* (sunset) prayers. The SDM promised to do the needful and he kept his word. The Ghaziabad activists say, with a twinkle in their eyes, that he perhaps kept his word because he made the promise in *Ramdhan* and in a mosque.

Hundreds of families were enlisted in the voters' list on payment to the *Anjuman* of Rs 25 (US$ 0.41) per family to cover the cost of transportation and other expenses. The *Anjuman* also secured a water tanker service for the area. How they did this is described later in the text.

The organisation obtained the approval of a tanker service and managed the enlistment of residents in the voters' list because some of the members were close friends of the area councillor and lower officials of the Karachi Water and Sewerage Board (KW&SB). Initially, eight tankers a day supplied water to the area but gradually, this was increased to 25 tankers per day. Two distribution centres were set up by the *Anjuman*. The people used to pay paisas 50 per canister to the *Anjuman* for this service. One person was selected by the *Anjuman* and made responsible for water distribution and a payment of Rs 10 (US$ 0.16) per day was paid to him by each household.

The *Anjuman* became ineffective in 1983 when it lost its good reputation because certain office bearers were found involved in profiteering. In one instance, some office bearers of the *Anjuman* appropriated the plot of Mansoor Sahib and sold it for Rs 1,000 (US$ 16.66). After four months, the owner of the plot came to know that his plot had been sold. The owner was living in Abu Bakar Colony and the open plot was in Green Town. The owner mobilised the area people and disclosed this fraud. He tried to get help from the police but despite this, did not get his plot back. The *Anjuman* however, lost its credibility among the people.

In another instance, a few residents, Mohammad Shamsuddin, Akhter Imam, Mohammad Yousuf and Mohammad Latif from Mujahid Colony contacted the organisation to get their families registered in the voter's list. They were asked to pay Rs 25 (US$ 0.41) per family as payment to the office bearers, in addition to the Rs 25 (US$ 0.41) that had been set by the *Anjuman*. When they refused to pay, their names were not registered in the voters' list by the organisation. Shamsuddin Sahib and his friends realised that their problems would not be solved by this organisation. They decided to organise themselves and work for the development of the community.

2.2 Ghaziabad Falahi (Welfare) Committee

In early 1984, Mohammad Shamsuddin, Jamal Akhtar, Akhtar Imam, Mohammad Yousuf and Mohammad Latif started contacting the area people. Hamid Raza was also contacted by them and asked to join the committee. Hamid Raza was disillusioned with the Anjuman, so he responded positively. The activists went door to door contacting people or speaking to them in tea shops and street corners. This activity lasted for a month, after which a meeting was held in an open plot and about 50 residents participated. At this meeting an organisation was formed and named "Ghaziabad Falahi Committee (GFC)". Eighteen executive members were elected in the meeting. All others present were registered as members. A month later, at the first formal meeting of the Committee, the 18 executive members elected seven office bearers.

It was decided to hold elections of the Executive Committee every two years. Initially, the office of the GFC was established in a room in the house of its secretary. However, soon afterwards a shop was hired for Rs 200 (US$ 3.33) per month and the office was shifted to it. The rent of the shop was paid by donations from the executive committee and through membership fees.

The main objective of the *tanzeem* was to lobby for basic services such as water, sewerage, regularisation of the area, road construction, electricity, Sui gas, health and education facilities.

The GFC office bearers would like the organisation to be registered. However, this is an expensive process and GFC does not have the funds to pursue it. There are advantages in being registered as government agencies and officials consider you to be a legal person, accountable and representative. As such, they take you more seriously. However, the constitution of the GFC is the same as that which is required under the Societies Registration Act.

Water, sewerage and allocation of plot numbers were given priority by the GFC. Plot numbers were important because the people of Ghaziabad had no address and as such no proof of being owners of their homes. Plot numbers could be allocated by the KMC for taxation purposes, by KW&SB for purposes of providing water and sewage or by the KESC for providing electricity. However, the office bearers of the GFC were not sure of how to pursue their objectives. "We were new. We were not aware of how to lobby with the government departments, so we thought we should work under someone's guidance, someone should be the patron of our organisation," says General Secretary, Shamsuddin.

The executive members then proposed three names for chief patron of the organisation:

- Afif Hasan Alvi, director in the KESC, residing in North Nazimabad, a upper middle income area of the city. He could help in getting electricity or at least getting a map of the area, complete with plot numbers, prepared by his organisation.

- Dr. Sarwar Sultana, an activist of the Muslim League (a political party). Her clinic was in Sector 1 Orangi, but she resided in Nazimzabad. She could help through her party.

- Councillor Zaheeruddin Babar, councillor of KMC Unit 119 (he was not the area councillor as Ghaziabad was under KMC Unit 118).

Councillor Zaheeruddin Babar was considered as the most suitable candidate for a patron. He resided in Orangi, Sector 8 and was available to area people all the time. Besides, he knew how to talk to and get work done by the councillor of Unit 119 and government departments. The office bearers of the GFC felt at home with him as he was approachable.

In 1986, the membership of GFC increased from 50 to 250. Executive members increased from 18 to 30. This was because people saw that GFC was making headway on many fronts and constantly holding street corner meetings to explain to the people what attempts were being made to improve conditions in

Ghaziabad. Executive members were elected in the General Body meeting which was attended by over 120 persons. The same office bearers, as in 1984, were re-elected by the executive members.

In 1988, GFC elections were not held as activities of the *tanzeem* were stopped after threats were received from the local activists of the Mohajir Qaumi Movement (MQM), the political party that had swept the local, provincial and national elections in Karachi. The MQM activists informed the GFC that from now onwards they would look after the interests of the area and the GFC should stop its activities. The GFC obliged but continued its contacts informally. Third elections of GFC were held in 1992, after the local bodies were dismissed by the provincial government. Membership of GFC meanwhile had increased to 300. Twenty-seven executive members and five office bearers were elected.

The leadership has been the same since 1984. "We worked together, cooperated with each other, nothing was kept secret. We discussed issues in the meeting and took decisions with consensus. This consensus was arrived at through constant interaction. That is why we were able to obtain the people's confidence in our organisation," says the president.

The office bearers were elected keeping in mind that they had time to devote to the activities of the organisation. President Hamid Raza was available to the people because he was a mason and used to work in the area. Akhtar Imam is a shopkeeper. His shop is in the area and he is thus available to the people. Mohammad Shamsuddin was free during the day for 15 days a month since he worked on night shift duty in Pakistan Jute Mills. Jamal Akhtar and Amin Shadai are employees in the Saddar (Central Karachi) Post Office. They were responsible for all the correspondence and writing works and were also available after four in the afternoon.

3. People's Initiatives in Development

3.1 Efforts for Acquiring Legal Documents of Ownership

Mohammad Shamsuddin had a friend in the KW&SB. His name was Haider and he was an inspector in the organisation. He lived in the planned area of Orangi. Haider was not interested in helping the GFC in acquiring plot numbers. However, Shamsuddin explained to him that if plot numbers were allotted, then Haider, as the Orangi inspector, would be responsible for serving bills for water and for helping in collecting them. This would increase his power considerably. Haider saw the logic of this and prepared the paper work required for this exercise. The request to the KW&SB was made by the area councillor as required by procedures. “The office bearers and active members of GFC had to spend two months in KW&SB, to get the order for a survey approved, in spite of Haider’s assistance" says Shamsuddin.

The activists of the committee did the survey with the KW&SB surveyor and painted numbers on the houses. A sum of Rs 500 (US$ 8.33) was given informally to the surveyor to allot numbers to the vacant plots as well since he was not willing to number the vacant plots. The planning was done by the GFC. Roads and lanes were marked. There were major disagreements between Haider and the GFC on mapping. Haider wanted to distort the maps so that he could make some money on informally regularising the incorrect documentation. The GFC activists did not permit it and their relationship with Haider was soured. A mason from Ghaziabad was hired to establish proper benchmarks for the plots and the roads. He was paid from the donations made by the Ghaziabad residents and from the membership fees of the GFC. The survey map prepared by the KW&SB and the GFC has become base map for all official work for Ghaziabad.

In November 1985, the GFC secretary contacted Haider again and suggested that he get water bills sent to the Ghaziabad residents now that their area had been surveyed and plot numbers had been given. However, there was no water line in Ghaziabad. Haider agreed since he felt that he would be able to make some money from the Ghaziabad residents for getting the bills cancelled. The bills were served to the people by the KW&SB on the basis of the survey number allotted to each house. People were surprised and worried that there were no water taps in the area, yet bills were being received.

The activists advised the people to keep their bills carefully as they would be useful later on. Then all the bills were collected and photocopied. The committee wrote a letter addressed to the mayor and attached to it the photocopies of all the bills. The letter stated that the bills had been sent to the residents of Ghaziabad. Since the rules on the reverse of the bill stated that if the bill was not paid by a certain date the water line would be disconnected, the mayor was kindly requested to disconnect the water connection.

The mayor was surprised at the request. He held a meeting with the area activists and asked for an explanation. They informed the mayor that no water line existed in the area so they were not liable to pay the water charges. The mayor then cancelled payment of all the bills.

In this way, the people obtained proof of occupation of their plot and this subsequently helped in regularising their area. The strategy had been suggested by another friend of Shamsuddin, employed in the KW&SB and a resident of Orangi.

3.2 Local Body Election in 1987

However, soon after, activities of the organisation virtually ceased. "Since the beginning of 1985 we had received threats from the MQM local leader and were pressurised to stop organising the people for area development," says a committee member. "We could not take a stand against them so we kept quiet. We could not take a stand because we were only local people and did not have the establishment behind us. The MQM's local activists were a part of a national organisation with linkages all over including linkages with the underworld."

In 1987, five candidates, Syed Badruddin, Haji Hanif, Fakhre Alam, Mohammad Fakhruddin and Taj Mohammad, were contesting the 1987 local body elections as area councillors from Ghaziabad. Altogether there were 18 candidates for KMC Unit 118. Every candidate wanted the support of the organisation. The organisation held numerous meetings and tried to get a consensus of 30 executive members on one candidate but, unfortunately, the members could not agree on one candidate and 22 executive members were divided into different camps.

Eight executive members - Hamid Raza, Mohammad Shamsuddin, Akhtar Imam, Jamal Akhtar, Amin Shadai, Asif Jamal and M. Sulaiman - arranged a public meeting. 270 people from all six *mohallahs* of Ghaziabad attended the meeting. They informed the people about the situation and asked them to suggest one candidate they should vote all for. The people decided that one representative from Ghaziabad should contest the election. They nominated Mohammad Shamsuddin for candidate and collected Rs 7,000 for his campaign.

Mohammad Shamsuddin contributed Rs 50 (US$ 0.83) for his election campaign. The nomination papers were filed on the last day. Three candidates offered Rs 30,000 to 50,000 (US$ 500 to US$ 833.33) to Shamsuddin to withdraw his name from the election but this was not accepted. Shamim Ahmad, the MQM candidate received 1,100 votes and won the election. Shamsuddin received 375 votes and was placed fourth. This increased conflicts between the councillor and the GFC.

Thus, in 1987, Shamim Ahmad of the MQM became the councillor for the area. He announced that, besides the MQM, no other organisation would operate in the area. He claimed that since the MQM had come to power it would now do all the work. "We said very good, but please come to our area and solve our problems", says a Ghaziabad Falahi Committee member.

"During that time, for a four year term, a councillor would get Rs 750,000 (US$ 12,500) annually for the development of his area. In 1987, this was changed and during a 5-year term, each councillor would get Rs 6,875,000 (US$ 114,583) per year for development work. This was the highest amount of money a councillor had ever received. But we do not know where this money was spent. They only built a beautiful *chowk* (roundabout) with tiles and repaired the roads", says another member.

"We did not remain quiet. We wrote to Altaf Hussain, the chief of the MQM, and the late Azim Tariq (MQM leader) and asked where this money was being spent. We asked them to check that this money was being spent properly for the people's benefit. We received no response to our letter."

3.3 Efforts for Acquiring Water (pre-LCGO 2001 Ordinance enactment)

In the early days, there was no system of supply of water in the settlement. The residents had to go two kilometres to fetch water for daily use. The area activists contacted the councillor and put pressure on him to arrange for water through tankers. They then invited him to their area. The councillor did not have much faith in the ability of the Ghaziabad people to organise themselves and, besides, they had not given him any votes so he did not come. The committee however felt that since he had won the elections, it was his responsibility to solve the people's problems. The councillor did not listen to them.

The Committee then decided to approach the councillor of the neighbouring ward for help. He responded positively and visited Ghaziabad several times. When the Ghaziabad councillor saw this, he accepted the invitation and came to Ghaziabad. About 250 people attended the meeting in which a demand for water tankers and for a KMC truck to suck sewage from the soak pits and septic tanks were made. The councillor accepted these demands immediately.

After this, committee members went with the councillor in groups to the KW&SB and KMC offices and met with the relevant officials. After considerable lobbying and many meetings eight tankers a day were sanctioned by the local government in 1982. After six months, the number of tankers was increased from eight to 25 again through constant visits to government offices with the councillor of the area. The activists set up two distribution centres where the tankers would stop and people would come and take water. One person was made responsible for water distribution. He was chosen through a consensus at a meeting. He was considered poor and honest and a payment of Rs 10 (US$ 0.16) per day was made to him per household. In addition, Rs 0.50 per canister charge was imposed by the activists and went into the coffers of the *Anjuman*.

In the settlement there was no underground water tank at that time. A water tank was then constructed through donations at the mosque and the water tankers discharged into this tank. The person in charge of distribution also shifted to this tank. This became the model for the future and now there are three mosques in the settlement and they all have underground water tanks where tankers can discharge and the community has appointed a person to manage the water distribution and pays him for this service.

In 1986 there were ethnic clashes in Orangi. The tanker operators are Pathans (from the NWFP Province) and Baloch (from Balochistan Province) and they stopped operating in the Mohajir (refugee) controlled areas of Orangi. As a result, the tanker system felt apart and people had to resort to buying tankers directly from the open market. The cost of these tankers was Rs 150 to 500 (US$ 2.5 to US$ 8.33) whereas previously the community was paying only Rs 10 (US$ 0.16) per tanker. Around 1988, the incomes of certain households had improved in Ghaziabad due to their relationship with the Banarsi weavers. These households built underground water tanks and got together to purchase tankers. They sold water at reasonable profit to their neighbours.

In 1990, after the formation of the GFC, BUSTI, a Karachi NGO approached the residents of Ghaziabad. BUSTI offered the GFC UNICEF supplied hand pumps free of cost if they could finance the boring required for the installation of the pumps. Meetings between the office bearers and the BUSTI representatives were held in the GFC office in Ghaziabad. A meeting of the members was also called and the programme was explained to them. The meeting supported the proposal of funding the boring. A committee was formed in three different areas to mobilise funds. It was also decided that the skins of sacrificial animals (during the Muslim feast of Bakr Id) would be collected and sold and would be utilised for this purpose. BUSTI provided the contractors for the borings and installed the hand pumps. Each boring cost Rs 20,000 (US$ 333.33) and serves between 200 to 250 houses. So as to prevent disputes and accusations of favouritism, the boring was done in the mosques.

However, the water from the borings is brackish. People mix it with water from the tankers to make it potable. The water crisis depend in 1998 when due to a shortage of water the cost of the tankers went up. Meanwhile, in 1992 a network of water lines was laid under ADB funded Karachi Urban Development Project (KUDP) in Ghaziabad. But water source for this network was not available and as such the system could not be commissioned. The GFC sent numerous letters to the KMC administrator and the KW&SB regarding the water problem and paid several visits to their offices.

Finally in 1998, the KW&SB carried out three borings in Ghaziabad and built an overhead water tank and connected it to the KUDP pipe lines. However, there was considerable leakage in the pipe lines and the valves did not work properly as the work done under KUDP was all substandard. The Committee pressurised the government agencies to repair the network but after four months they realised that they would have to undertake this work themselves. A separate committee was formed to undertake this work with a contribution of Rs 100 (US$ 1.66) per house or labour of an equivalent of Rs 100 (US$ 1.66) per house. Rs 30,000 (US$ 500) were spent on this work. Now the pump of the boring at the underground water tank has broken down and is not being repaired by the KW&SB and nor is the KW&SB willing to let the GFC repair it. So people have reverted to purchasing additional tankers all over again. The GFC is interested in taking over the pumping station as well and is planning a strategy to do so.

In the struggle for water the activists were helped by members of the GFC and the community. Those who were chosen for pursuing and organising this work were identified by consensus. The main criteria for choosing them was that they should have enough time to visit government offices, hold meetings and supervise the work. In addition, some of them should know how to speak before government officials and know how to read documents so that they know what they are signing on behalf of the GFC. Such people were easy to identify as almost everyone in the meetings knew each other.

3.4 Sanitation (pre-LCGO 2001 Ordinance enactment)

Initially, people made soak pits and subsequently, when they have some money, septic tanks. In both cases, affluent overflowed since there is a bed of shale a few feet below the surface of the ground in Ghaziabad. This created unhygienic conditions. In 1991, the ADB funded water and sanitation project was initiated under the KUDP. This was a turning point for the GFC. This brought them into contact with the OPP-RTI which was the advisor to the KMC and KW&SB for the design and implementation of this project. Details of this project and its repercussion on the GFC are explained in section 4.

3.5 Efforts for Electricity

In 1988, electric poles were installed in Gulshan-e-Bihar, adjacent to Ghaziabad. Jamal Akhtar and Hamid Raza went to Gulshan-e-Bihar leaders and asked them the procedure to get electricity. An activist of Gulshan-e-Bihar, Pasha Sahib, explained the procedure to obtain electricity from KESC.

Jamal Akhtar and Hamid Raza went to the KESC office to pick up forms for application. There were no forms available in the office but a nearby *paan* (betel leaf) shop was selling 100 forms for Rs 30 (US$ 0.5). The form was supposed to be supplied free of cost by the KESC office. Jamal Akhtar and Hamid Raza bought 300 forms for Rs 90 (US$ 1.5) and distributed these in the area.

Ninety-four *challans* (demand notes) were submitted to the KESC in bulk in 1988. After this Jamal Akhtar and Hamid Raza, along with various members of the GFC went in groups of six or seven persons to the KESC office regularly. After at least 12 such meetings, a survey of the area was carried out by the KESC in October 1991. No Objection Certificates (NOC) for the installation of electricity were received in May 1992. Seventy-two poles were sanctioned in December 1994. However, they were not installed as the KESC claimed that it had no finances for carrying out this work although it had received Rs 200,000 (US$ 3,333) from the applicants as fees.

People therefore continued to get illegal connections from their neighbours in Gulshan-e-Bihar and pay the neighbours for them and pay the KESC sector staff for permitting this to happen. Those houses that were far away from Gulshan-e-Bihar got their electricity from entrepreneurs who set up generators and

supplied electricity at Rs 70 (US$ 1.16) per tube light per month and an additional Rs 50 (US$ 0.83) for a TV connection.

In 1999, the GFC leadership decided to approach the Managing Director (MD) of the KESC directly, by-passing the staff they had been dealing with. However, it was not possible for them to get an appointment or even to enter the KESC MD's office due to security reasons. Shamsuddin has a friend who works in a junior position in KANUP, the nuclear power station in Karachi. This power station is a sensitive installation and its employees carry security ID cards. This friend went with him to the MD's office and because of his card they were allowed in. They left a letter for the MD with his secretary and followed this up by three unsuccessful visits. Finally, an appointment was given and a meeting with the MD and the chief engineer of the KESC was held. In the meeting Shamsuddin told the MD that the KESC was forcing the people of Ghaziabad to steel electricity and that for nine years they have been struggling to be serviced. The chief engineer again said that they did not have money for the job even though they had taken money from the Ghaziabad residents.

GFC had already worked on the sanitation programme of the OPP where the lane and collector sewers are built by the community with their own finance and the main trunk sewers are built by the government. Shamsuddin suggested a similar methodology for the provision of electricity to Ghaziabad. After discussions it was decided that the government would provide poles and PMTs to the community in exchange for the payment the residents had had already made. In addition, the KESC would provide a KESC approved contractor who would complete the entire work and would be paid directly by the community. The community would purchase wire and all other items required for the completion of the work. The main transmission line was laid under the supervision of a committee created by the GFC. The distribution lines in the lanes were the responsibility of the lane itself. In each lane a manager for this work was elected, selected or nominated by the lane residents. He negotiated with the contractor, collected money from the lane residents, paid the GFC committee the sum required for the transmission line, purchased the material for work in the lane and supervised the work. In this he was helped by other members whom the community or himself chose. The criteria for choosing these members was that they should have time to give to the project, know how to keep accounts and have technical skills to negotiate with contractors and supervise work. Again since a lane is a small unit of organisation, it was not difficult to choose the right person since everyone knew each other.

Electricity work has been completed in certain areas of Ghaziabad. In these areas not even one illegal connection is visible today. In addition, the cost to each household has worked out to Rs 3,608 (US$ 60.13) as compared to the KESC's charges of Rs 7,300 (US$ 121.66). Till October 2001, 225 houses had taken connections. So far 300 houses have connected and 450 houses in Bismillah Colony are in the process of replicating the model.

The GFC is working on an O&M proposal for electricity. The community has accepted the proposal and negotiations with the KESC are in progress so that they may also accept it. The proposal is that two members are to be appointed from the community who should collect and pay the KESC bills from the 300 houses that will be served. These two members will also look after and solve any technical problems that may arise from the PMT to the pole along with any problem in the lanes. For this the 300 houses being served in the first phase will pay Rs 10 (US$ 0.16) per month to these two members for their services. Meanwhile, the KESC will maintain the main transmission lines.

3.6 Efforts for Education

Ghaziabad has six primary schools and five secondary schools. All are privately owned. They have been set up by the residents of the area. These residents are either public-spirited individuals or entrepreneurs. They have built the schools incrementally. They started with one or two rooms and developed them gradually, without getting any assistance from the government or the private sector. The fees for primary school are Rs 35 to 40 (US$ 0.58 to US$ 0.66) per student and for secondary school Rs 35 to 65 (US$ 0.58 to US$ 1.08). Ninety per cent of the children in the area go to some form of school or are taught at home. Many better-off residents pay the fees of six to seven students from poorer families in the tradition of Islamic charity for education and acquisition of knowledge. About 80 to 100 students benefit from this.

A new programme has been initiated by the GFC after completing the sewage work in 1994. The GFC wanted to establish a school for children working during the day. Shamsuddin, the GFC secretary, took up this programme.

As a strategy, he contacted youth of the area who were studying in college and used to spend their extra time playing *dabboo* (carom). Shamsuddin also started playing with them, while playing he used to discuss the idea of night school with them. The incentive was that their time would be spent for some better purpose and they could also earn some money to support their higher studies. In this way four youths agreed to start a night school. Shamsuddin allowed them the use of his empty plot which has got a platform and a boundary wall. In addition he requested OPP-RTI's education programme for financial support. In 1995, he got a grant of Rs 3,500 (US$ 58.3) with which a shade was constructed, blackboard, rug and lantern were also managed with this amount and the school started functioning with the enrolment of around 30 students. Students were charged Rs 25 (US$ 0.4) per month. School was up to primary level. In 1998 the number of students increased to 58. At the same time, due to strife in Karachi, the problem of security of children coming home late in the night arose. Therefore, on the request of the parents, teachers took the responsibility to drop the students back home. However, bringing them to school remained the responsibility of the parents.

At present, there are 72 students and 3 teachers in this school. Up to KG-II fee is Rs 25 (US$ 0.4) per student and for class 3 to 5 the fee is Rs 30 (US$ 0.5).

In 1998, Ghaziabad night school got a grant of Rs 25,000 (US$ 416.6) from the Rotary Club through OPP-RTI's education programme. Shamsuddin did not want to use this money on his own plot. Therefore, the GFC decided to invest this amount in a nearby *maddrassah* so that more rooms could be added to the *maddrassah* which would then also be used in the day. With this arrangement the school management saved Rs 500 per month as rent and this is now being set aside as a school fund.

3.7 Struggle for Irfan Park, Mujahid Colony

As mentioned earlier, Mujahid Colony is an area of Ghaziabad. Development began here in 1980-81. It was done by land-grabbers and most of the plots are 120 M2. While people were settling here they formed a group that decided that an open space for a park was required for the area. For this purpose, the group ear-marked 10 unsold plots at the centre of the settlement.

The group presented its idea to the land grabbers but the land grabbers, who were expecting a big profit from these plots, refused to leave these plots for the park. The group then met and decided to discourage new settlers to buy these plots. Each time the land grabbers brought clients, the group informed them that this was park land and could not be used for residential purposes. As a result, it became very difficult for the land grabbers to sell the plots.

Despite all efforts by the group, one plot was finally sold. The group soon got to know that the purchaser was involved in the drug business. The group asked the purchaser to leave the area otherwise they would not only inform the authorities about his business but take action themselves. Due to continuos threat and pressure from the group and support from the community, the purchaser could not establish his business in Mujahid Colony.

After one and half a years of tussle with the group, which was now supported by the community, the purchaser sold his house to another person for Rs 40,000 (US$ 666.6). The community also informed the new purchaser regarding the proposed park. "We told him that he would not even be able to have a plot number" says Shamsuddin, "But he went on with the deal and also added a room to the house". The community continued in its attempts to save the remaining nine plots. However, in 1993 the land grabbers were successful in selling two more plots to the activist of a political party whom the CBO did not have the strength to fight against. Meanwhile, in 1984, the GFC had been formed and it took over the struggle for the park along with the community. A number of community members of Mujahid Colony are also members of the GFC.

In the same year, work on the ADB's sewerage project started in Ghaziabad and other parts of Orangi. As a result, the GFC established contacts with OPP-RTI which was one of the project partners. According to Shamsuddin they used to hold regular meetings with OPP-RTI on the ADB project. While holding meetings with OPP-RTI, the GFC also discussed other issues of the settlement including that of the park.

On the park issue, the OPP-RTI advised the GFC to meet with Irfan Ali the Project Director of the Zonal Municipal Council (ZMC) West. Irfan Ali visited the area on GFC's request. He issued an inquiry regarding the ownership of the park. He also issued notices to the owners of three built houses on the same land. They refused to receive these notices and so the notices were pasted on the walls of their houses, but none of the three responded. After three days, Irfan Ali declared the land as a park (1,200 M2) and a modification to this effect was made in the ZMC maps and three houses were bulldozed and the community decided to call the park Irfan Park, after Irfan Ali. The community with GFC support built a fence around the 10 plots and planted some trees but these were destroyed by the land grabbers who also started to harass the GFC and community activists.

It was then that the GFC decided to invite Afaq Ahmed Shahid, then Federal Minister and a resident of Orangi, for the inauguration of the Park. The idea behind this invitation was to seek protection from the land grabbers and get some immediate funds for the park's development. In April 1994 Afaq Shaihd, Irfan Ali and OPP-RTI staff came to Mujahid Colony to attend the park's inauguration ceremony. On the occasion the Federal Minister and Irfan Ali planted trees in the park and the Minister announced a grant for the construction of a boundary wall around the park. The construction work of the boundary wall started within a week's time.

The OPP-RTI has provided plants for the park from its nursery and the community has shared the cost of water for the plants. The community is happy that their children have a place to play and that they can now hold their cultural activities in a proper designated place rather than on the roads. The 14 year struggle for an open space was over.

4. ADB Funded Project in Ghaziabad and GFC's Role in it

Under the Karachi Urban Development Programme (KUDP) ADB Loan No. 793 SF-PAK, KMC was responsible for laying the underground sewerage lines, water lines and the construction of roads in the upper part of Orangi as part of its Katchi Abadi Upgrading Programme. Ghaziabad was one of the SPA-1 in Orangi.

NESPAK, a private consultant, was appointed by KMC-KAD to prepare the design of sewerage, water lines and roads. The KW&SB was to prepare the cost estimates of the project and execute it. The KW&SB called the tender and works were assigned to a qualified contractor. Under the scheme, the KMC was to lay all internal and external infrastructure. In most of the SPAs, people had already built their "internal" infrastructure on a self-help basis with OPP-RTI advice. OPP-RTI and Orangi communities were concerned that this people built infrastructure would be duplicated and destroyed. OPP-RTI also had serious concerns regarding the overall design of the system proposed by the KW&SB consultants. This was January 1991.

The scope of work to be done by OPP-RTI as defined in the agreement included the provision of documentation of existing development works in sanitation for external and internal development; water supply; roads and lane paving; and identification of the required development and it phases of implementation. In sanitation the design of the "internal" development, consisting of lane sewers and small collector drains, and "external" development consisting of large collector drains, was also included in the OPP-RTI consultancy. An advisory role in design and execution, so as to integrate the above was also agreed upon.

For implementation phase, the OPP-RTI's role was to be an advisory one and to mobilise the community and provide technical support to it (provision of plans and estimates, supervision of work, supply of tools and shuttering, provision of extension and instruction literature, training of masons, plumbers and

activists, and preparation of audio-visual aids). OPP-RTI was also charged with documentation and monitoring of sanitation development.

OPP-RTI was aware of its limitation and knew that it had no authority to prevent the engineers and contractors from doing substandard work. So it involved the area people in checking the work.

Several meetings were held between OPP-RTI members and area activists. In a meeting, the plan and design was explained and handed over to the activists. The plan showed details of location, depth of pipe line and the number of manholes. OPP-RTI explained to the activists the specifications of the work, what ratio of cement was to be used, how much excavation was to be done. The manner of constructing manholes and how much steel was to be used in the concrete sections was also explained.

The people were also explained how to check the quality of pipes. The need for supervising the work was to maintain the quality of work and to ensure that the money invested by the people in laying the sewer lines in “internal” development was not wasted.

The activists and members of the GFC have explained this association with the OPP-RTI in their own words. Shamsuddin reports of his first contact with the ADB project, he says, “One day I was at home working on the moulding machine when some labourers started excavation in my lane. I went out and asked them what was going on. They told me to ask, the officers standing nearby. I went there and saw the engineers and contractors. On asking the same question, they replied that this is for laying of an underground sewerage line. I asked them whether sewerage lines would be laid in other lanes too and their reply was no. I talked to the people living in the lane and told them what was going on and that if I permit this work people of other lanes will raise objections that I being the general secretary of the GFC had got the sewerage line laid in my lane! I will not be in a position to face them after this. Lane residents supported my point of view, therefore the work to be carried out in my lane was stopped by pressure from my neighbourhood.”

The next day, Javaid, the social mobiliser cum technician of the OPP-RTI visited Ghaziabad and the residents directed him to Shamsuddin’s house. Javaid introduced himself and the OPP-RTI to Shamsuddin who had never before heard of this organisation. Javaid explained the OPP-RTI sanitation programme and the ADB funded project which was to be implemented in Ghaziabad. He further explained that only main and secondary lines would be laid by the government and the people would have to lay the lane sewers themselves. Javaid also informed Shamsuddin that the OPP-RTI could not control the quality of work and this is something that the community will have to do. They will have to check the depth of excavation, quality of material, diameter of pipe and ratio of concrete.

The next day, Perween Rahman, director OPP-RTI, visited Ghaziabad and spoke to Shamsuddin and a few other GFC members. She told them that since they live in the area they should supervise this work and if something is wrong they should point it out to the OPP-RTI. She further informed them that the RTI would provide them with all necessary details and maps, labelled in Urdu and explain them in detail.

Shamsuddin says, “While Perween Rahman was talking to me a lot of questions came to my mind. Will the contractor listen to me? Will it be possible for the people to check the quality of work? She also said that if you see the work being implemented against the directions in the maps and specifications you should not argue with the contractor or engineer but write a note to the KMC project director and provide a copy to the OPP-RTI. On this issue I was sceptical, why should the KMC director take notice of my note? Why should OPP-RTI staff be interested in my area? However, one thing she said made sense to me that for the first time in our lives we have got a chance to control the quality of work in our area and in doing so we would not be helping the OPP-RTI but ourselves as this would give us access to a good quality sewage system.”

Shamsuddin kept the map, drawings and specifications and the next day called a meeting. About 70 people of the area attended in addition to the members of the GFC. Perween Rahman’s programme along with the maps and drawings were placed before them and they were asked if they would cooperate. They were willing but were not sure as to how they could keep a check on the work and were sure that

contractors and engineers would not listen to them. Only three office bearers and four elderly people agreed to give their time for this work.

Next day Javaid went back to Ghaziabad and held meetings for a whole week with the GFC members and the volunteers. In a week's time they were able to begin reading the map and understanding the specifications. Their training included visiting the site, inspecting the work and relating it to the maps and technical details. The members and volunteers also went to the OPP-RTI and saw the work that had been done in other parts of Orangi. They discussed this with Orangi residents who had done this work and who had very similar backgrounds to theirs. Thus their confidence increased.

The Ghaziabad residents saw this flurry of activity and started getting interested in becoming a part of the project. More volunteers offered to join. When work started, the GFC deputed members for supervision of this work. Two members were deputed to check the work of every 300 running feet. There were 18 members in all who supervised the work in Ghaziabad in addition to the GFC members who organised and monitored this supervision. They would observe the work to identify defects and report these defects to the OPP-RTI staff who would then take up this issue with the project director. The bills of the contractors could not be cleared unless a NOC was received by the KMC from the OPP-RTI and the OPP-RTI would not issue an NOC without an NOC from the GFC. Thus, the people became responsible for sanctioning the bills of the contractors.

As the confidence of the GFC activists increased, they started to stop the work directly instead of reporting it to the OPP-RTI. They also initiated direct contact with the project director.

However, it was not all smooth sailing. A lot of substandard work was done during this period and the OPP-RTI and the community, with support from the KAD director and the project director, had to struggle hard to get these defects removed. The most serious defects consisted of badly constructed manholes. These were cast in poor concrete, often without a base and of wall thicknesses that appeared to be of the right size on top but which diminished to less than 2-inches at the base. After casting, it was not possible for the supervisors to be able to determine the real wall thickness of these manholes. 137 such manholes were rectified and 139 were demolished and re-cast. In addition, 13 manhole slabs of substandard quality were also re-cast and 127 manhole covers that had been broken were replaced. Sewer lines were also sometimes laid to wrong depths and gradients. 1,908 running feet of such defective lines were dug up and relaid. Cracked or defective pipes were identified and replaced throughout project implementation.

In the first quarter of 1993, GFC activists identified defective manholes that had been cast without steel in the base and incorrect wall thicknesses. All of these manholes were cast at night during *Ramdhan* (the Muslim month of fasting) with the hope that the community, being involved in prayer, would not be able to supervise the casting. The community, however, identified the defect and the issue was referred to the OPP-RTI, which in turn asked the contractors, through the KW&SB engineers, to demolish and re-construct the manholes. Attempts were made by the contractors to bribe the OPP-RTI team and community activists at the rate of Rs 500 (US$ 8.33) per manhole so that they would ignore these defects. This did not work, and since the contractors refused to demolish the manholes, the matter was brought before Irfan Ali in March 1993.

Irfan Ali ordered the demolition of the manholes but the contractors delayed action on his orders and tried to create a dispute on the subject between rival groups in the area so as to gain enough time for the issue to fizzle out. Due to OPP-RTI's connections with the groups this ploy did not work and the manholes were demolished and the subsequent quality of work did improve as a result.

Similarly, activists would check and mark all substandard or cracked pipes, whether stacked or laid in open trenches, with black paint and insist that these be removed or re-laid. Often this would lead to confrontation. For example, in Mansoor Nagar SPA, when the community resisted the laying of cracked pipes, the activists were physically threatened in no uncertain terms by the contractors. The community, led by a resident who is a policeman, organised itself against these threats and got its way.

In another incident, the engineers and the contractors explained to residents of certain lanes that they would undertake to build their lane sewers as well. They further told the residents that all the lanes would have been built by the project had it not been for the intervention of the OPP-RTI. Thus people were made to feel that it was the OPP-RTI that had deprived them of free “internal” sanitation. One lane was commenced by the contractor but OPP-RTI staff identified it. They spoke to the area activist, Shamsuddin Sahib, and showed him the project plans of which “internal” development was not a part. It was explained to him that if “internal” development took place in his lanes and not in other lanes as well (of which there was no chance), bad social relations would develop between people. Shamsuddin Sahib understood this and forced the KW&SB engineers to stop work. As a result, the engineers developed respect for him.

In this whole process, the GFC and OPP-RTI had to be extremely careful because if it gave any wrong information in their reports, or raised an issue in exaggerated terms, it was bound to backfire and result in the destruction of their credibility which would make all coordination between the different partners difficult, if not impossible.

When the people became involved in the supervision of external development, they were clearly explained by the OPP-RTI that KMC would not lay the "internal" sewerage lines. It would be the responsibility of the people to lay the sewerage line in the lanes with their own finances. Before the completion of the "external" sanitation, OPP-RTI did the survey of the internal sanitation and supplied the design and estimates to the GFC. The GFC and OPP-RTI held meetings in the lanes and informed the residents that they would be provided technical assistance if they formed an organisation to build the lane sewer and connect it to the sewers built under the ADB funded project. Two persons were selected from each lane by the residents. They were provided with plans, estimates and tools by the OPP-RTI for building the sewer. They collected the money from the people of the lane, purchased materials and organised work. OPP-RTI provided top supervision. There are 20 to 30 houses in each lane and as such everyone knew each other. The poorer families were sometimes subsidised by the better-off ones. Problems related to bigger and small plots paying the same cost were also resolved by the lane organisation through discussion and dialogue.

In Mujahid Colony, all its 25 lanes were built in 20 days and after that very little motivation was required to convince the people that they can do the work themselves. The artisans and managers of the completed lanes became the motivators and technical expertise for the work in the rest of Ghaziabad.

According to OPP-RTI records, so far the people of Ghaziabad have invested Rs 1.428 million (US$ 0.023 million) in building 45,735 running feet of sewers in their settlement whereas the KMC’s investment through ADB funding is Rs 6.984 million (US$ 0.116) for building 23,280 running feet of sewers.

5. Community Policing

In 1996, there were a large number of dacoities in Ghaziabad. At night armed people invaded the settlement and took away whatever they could. The GFC contacted the OPP-RTI and held a meeting with Dr. Akhtar Hameed Khan who also invited the Deputy Inspector General (DIG) of Police. The DIG explained that he could not do much about the problem as he had no surplus police force or money for increasing the force. Akhtar Hameed Khan suggested that people should start policing the area themselves. A lane manager was appointed to make arrangements for every lane. Two persons per night per lane had to patrol their lane from 10 pm to 6 am. They carried a *tasla* (a flat metal dish) and a stick to beat it with. Whenever they saw suspicious looking people they started to beat the *tasla* whereupon the guards of all the other lanes would start doing the same. Every household had to give one person for this duty every 10 days or alternatively pay Rs 50 (US$ 0.83) to a person who would perform this duty on his behalf. After six or seven incidents of *tasla* beating, the dacoits stopped coming. Life came back to Ghaziabad and the teashops started remaining open till late at night. However, once things became normal again, the security system of the GFC fizzled out.

In 1998, the problem began again and women were also attacked. Peoples stopped leaving their homes and religious and social ceremonies could not be held. Then day time robberies also began. The GFC tried to reintroduced the system. However, the local police station refused to cooperate and made it clear

that if would hold the GFC guards responsible for the thefts if they were to patrol the streets. Again, through the OPP-RTI a meeting between the Inspector-General (IG) police and GFC representatives was arranged at the IG's office. It was decided that the system would be reintroduced. However, each guard would have an ID card with the stamp of the local police station and the GFC on it. The GFC was made in charge of preparing these laminated ID cards. The police would only patrol the main roads and the GFC would be responsible for the lanes. The guards were to be given a whistle and a stick. The agreement worked and as a result peace returned to Ghaziabad. The residents have now formalised the system. They pay regular guards to patrol a street at night whereas the police looks after the main roads.

6. Regularisation of the Settlement

The local consultant, NESPAK, who had been engaged for the ADB project was also given the responsibility of preparing a regularisation plan for Ghaziabad. For this purpose, the area was surveyed in 1989 and a map was prepared and objections were called from the residents in 1990. The objections were submitted by the residents and without being addressed the map was approved by the KMC council in 1991. The GFC opened an office in a shop in the settlement to deal with the regularisation issue. The map was displaced in the office and people were asked to identify their plots. Very strong objections were raised against the approved map since a large number of plots were shown as vacant when they were already occupied and people were living in them. The lower staff of the KMC asked for bribes for changing the rating of the plots from vacant to occupied. The community refused to pay and as such the regularisation process was a failure.

The GFC now wishes to survey the area jointly with the KMC. For this it will use the services of the young men who are being trained at the OPP-RTI in surveying and mapping. This will be an important step in the development of the GFC and in consolidating its relationship with government agencies.

7. "External-Internal" Concept and its Repercussions

According to Shamsuddin Sahib, working with the OPP-RTI was a turning point for the GFC because it realised the importance and feasibility of dividing development work between government agencies and the community. Working with the government as partners in the ADB funded project also developed its confidence and trained a number of persons as technicians, social organisers and lane leaders and managers. The importance of collective work especially with the community's finances, and the power and confidence it generates, was also understood. The GFC cashed in on this and held a series of meetings to explain to the people what they had gained. They also developed a closer relationship with the OPP-RTI and have sent five young persons from their area for training as para-architects and surveyors to the OPP-RTI courses. The two para-architects have completed their training and opened an office in Ghaziabad and are serving their community in providing technical assistance for housing and sanitation and are being paid for it by the community. Those receiving training in mapping and surveying will also qualify soon.

Community leaders and activists now also attend lectures held at the OPP-RTI and the URC on important urban issues. Thus, they have started seeing the problems of Ghaziabad in the larger Karachi context. They have also an idea of the macro level economic problems of the country and their relationship with conditions at the local level. All this is broadening their vision and making it easier for them to negotiate with government. It is also making them avid readers of newspapers and encouraging them to write. In short, it is preparing them for a future more prominent local level political role. In addition, the GFC has also initiated a programme of the plantation and solid waste management which is now a part of their partnership programme with their UC.

8. The Local Body Elections Under LCGO 2001 and After

Local body elections were held in October 2001 under the LCGO 2001. The GFC decided that its office bearers would not context these elections but would put up candidates from the community who were educated and/or "dedicated" and had worked with the and who were not associated with any political

party. Through a series of street corner meetings, leading to a big meeting, candidates were chosen by consensus. However, these candidates and the GFC office bearers and activists were threatened by the Orangi representatives of major political parties and told to keep out of the contest. They ignored these threats, although a few of them were roughed up, and their candidates swept the elections. So, the *nazim* and *naib nazim* of their UC is theirs. “It is better that we are outside,” says Shamsuddin Sahib, “we can cooperate with them, we can support each other. This creates checks and balances which would not be possible if the GFC had been in power. The *nazim* meanwhile, has accepted the “internal-external” concept of the OPP-RTI and seeks to support the work of the GFC. They now plan together and seek OPP-RTI support together as well. A new phase has begun in the life of the GFC and the work done by the GFC can now spread from Ghaziabad to the entire UC 6 which has 11,239 houses.

9. Important Dates and Events in the Development of Ghaziabad

1981 Start of settlement
1981 Formation of first local organisation
1981 Water tankers approved by KMC-KW&SB for the settlement
1984 Formation of Ghaziabad Falahi Committee
1985 Survey by KW&SB of the area
1986 Second election of Ghaziabad Falahi Committee
1988 Third election of Ghaziabad Falahi Committee
1988 Challan submitted for electricity
1990 Installation of hand-pumps
1990 Meeting with Mayor Karachi
1990 Area map prepared by KMC
1991 Map approved by KMC council
1991 Survey for electricity carried out
1991 Appointment of OPP-RTI as consultant to KMC for ADB-funded project
1992 NOC received for electricity
1993 External work of ADB-funded project carried out
1993 *Khuli kutcheri*. Project Director Orangi and Director DKA-KMC meet the residents in the settlement
1994 MNA invited to the area
1994 Electric poles sanctioned
1994 Lease camp set up for giving ownership rights to the people: it fails
1995 Installation of additional hand-pumps
1996 First attempt at community policing
1998 Second attempt at community policing and its institutionalisation
1999 Provision of electricity on “external-internal” concept.
2000 Tree plantation, solid waste management on “external-internal” concept.
2001 Local body elections under the Devolution Plan 2001 and the LCGO 2001
2002 UC start operation and help the OPP-RTI in preparing the UC handbooks

Appendix – 11

Statistics: Sewerage Construction Outside Orangi – Nov' 2002

Sr. No.	Area	Location	Internal Sanitation				External Sanitation	
			Lanes	Rft	Latrines	Cost (Rs. Million)	Mains. Rft	Cost (Rs. Million)
1	Chanesar Goth	Karachi	4	450	28	0.012	-	-
2	Manzoor Colony	Karachi	153	46935	2908	2.170	*9445	72.643
3	Islamia Colony	Karachi	108	24840	1043	1.250	8050	1.443
4	Bhitai Colony	Karachi	-	-	-	-	+1100	0.400
5	Welfare Colony	Karachi	106	23320	1272	1.520	1970	3.040
6	Mujahid Colony	Karachi	17	5865	525	0.630	3435	0.842
7	Jamali Colony	Karachi	20	3400	140	0.168	1882	0.328
8	Madina Colony	Karachi	69	10005	759	0.910	1654	0.572
9	Umer Baloch	Karachi	9	1610	130	0.156	370	0.060
10	Burmee Sharif	Karachi	219	28680	3285	3.942	3510	0.988
11	Baloch Colony	Karachi	10	1813	120	0.144	2800	0.340
12	Awami Colony	Karachi	38	5700	494	0.592	4444	1.314
13	Pirabad	Karachi	88	24840	440	0.528}	3484	2.476
14	Muslimabad	Karachi	42	17346	420	0.504}	-	-
15	Rajput Colony	Karachi	49	11660	539	0.647	2125	1.043
16	Zia Colony	Karachi	97	24638	1552	2.948	3800	0.215
17	Umer Colony I	Karachi	26	3180	318	0.381	*900	0.059
18	Umer Colony 2	Karachi	17	1490	149	0.178	1790	0.116
19	Nishterabad	Karachi	-	-	-	-	500	0.079
20	Shah Rasool Colony	Karachi	21	2814	210	0.252	1594	0.401
21	Zia-ul-Haq Colony	Karachi	111	13764	999	1.198	2960	0.665
22	Bawani Chali	Karachi	44	4488	352	0.422	2360	0.748
23	Khando Goth	Karachi	6	1332	48	0.057	+1160	0.282
24	Kausar Niazi Col. Blk-F	Karachi	78	13260	1014	1.216	376	0.098
25	Kausar Niazi Col. Blk-H	Karachi	40	4972	484	0.580	2230	0.540
26	Rehmatia Colony	Karachi	87	9570	655	0.786	3550	0.860
27	Wahid Colony	Karachi	19	4560	247	0.296	1520	0.357
28	Anjuman-E-Ittehad Colony	Karachi	3	600	27	0.018	800	0.238
29	Qasimabad	Karachi	2	360	20	0.014	340	0.073
30	Noor Afshan Colony	Karachi	6	760	60	0.114	500	N.A
31	Junejo Town	Karachi	2	200	28	0.061	990	0.058
32	Umer Colony	Karachi	64	10389	1130	0.946	-	-
33	Deh Taisar	Karachi	72	27618	1384	3.318	3500	⁹ 0.275
34	Generalabad	Karachi	9	1565	52	0.818	2191	0.963
35	Farooq-e-Azam	Karachi	14	1085	106	0.090	432	0.107
36	M.Ali Colony	Karachi	42	4625	280	0.276	2168	0.621
37	Abbasi Nagar	Karachi	34	4277	390	0.337	1660	0.536
38	Mecca Colony	Karachi	12	1660	136	0.122	980	0.306
39	Kot Lakhpat/Others	Lahore	54	13473	711	1.496	180	N.A
40	Qadri Colony - I	Lahore	27	5794	308	0.730	-	-
41	Qadri Colony - II	Lahore	5	1064	43	0.125	-	-
42	Yasrab Colony	Lahore	5	1538	74	0.148	-	-
43	Farooq Colony	Lahore	3	540	24	0.078	-	-
44	National Colony	Faisalabad	5	1052	67	0.154	-	-
45	Dhuddiwala	Faisalabad	39	5943	235	0.694	-	-
46	Hasanpura	Faisalabad	54	8524	604	1.376	524	0.131
47	Rajada Town	Faisalabad	6	1161	87	0.190	-	-

Sr. No.	Area	Location	Internal Sanitation				External Sanitation	
			Lanes	Rft	Latrines	Cost (Rs. Million)	Mains. Rft	Cost (Rs. Million)
48	Al-Najaf Colony	Faisalabad	5	1260	56	0.156	-	-
49	Nimat Colony	Faisalabad	11	3860	128	0.434	-	-
50	Jalvi Market	Faisalabad	22	3421	235	0.517	-	-
51	Factory Area	Faisalabad	1	310	10	0.043	-	-
52	Abdullah Town	Faisalabad	3	1668	48	0.190	-	-
53	Jalvi Trunk	Faisalabad	-	-	41	0.057	1820	0.277
54	Darusalam Colony	Faisalabad	2	300	12	0.030	-	-
55	Iqbal Nagar	Faisalabad	2	418	22	0.048	-	-
56	Bilal Colony	Faisalabad	18	3232	178	0.520	-	-
57	Mujahid Town	Faisalabad	5	680	30	0.077	-	-
58	K.T.M. Chowk	Faisalabad	2	210	6	0.021	-	-
59	Nisar Colony	Faisalabad	36	13353	615	1.801	-	-
60	Satellite Town	Faisalabad	15	3785	142	0.463		-
61	Kehkashan Colony	Faisalabad	-	-	-	-	+3800	0.703
62	Madina Colony	Faisalabad	7	1259	84	0.181	-	-
63	Dogar Basti	Faisalabad	4	572	34	0.084	-	-
64	Himat Pura	Faisalabad	5	805	53	0.134	-	-
65	Sohailabad	Faisalabad	2	450	30	0.077	-	-
66	Aslam Gunj	Faisalabad	5	1305	89	0.217	-	-
67	W. Town	Faisalabad	4	780	72	0.159	-	-
68	Sandhu Pura	Faisalabad	1	310	6	0.031	-	-
69	M. Ali Park	Faisalabad	3	1800	52	0.191	-	-
70	Yasinabad	Faisalabad	5	1283	96	0.223	-	-
71	Rukanabad Chak no. 117	Faisalabad	-	-	-	-	2400	0.215
72	Yakta Market	Faisalabad	-	-	58	0.081	1150	0.080
73	Zulfiqar Colony	Faisalabad	4	900	47	0.129	-	-
74	Nadir Town	Faisalabad	2	430	32	0.075	-	-
75	Rashid Nagar	Faisalabad	-	-	-	-	1775	0.560
76	Murad Colony	Faisalabad	3	400	52	0.142	330	0.038
77	Elahiabad	Faisalabad	23	6624	382	1.005	7665	2.300
78	Usman Town	Faisalabad	3	410	18	0.072	-	-
79	Hamyan Town	Faisalabad	8	1387	55	1.088	-	-
80	Yousuf Town	Faisalabad	6	2340	60	0.331	350	0.038
81	Green Town	Faisalabad	7	3325	217	0.837	320	0.042
82	Partab Nagar	Faisalabad	2	700	26	0.121	-	-
83	Muzaffar Colony	Faisalabad	2	800	30	0.140	-	-
84	Harcharnpura	Faisalabad	2	800	30	0.140	-	-
85	Bhahiwala Road UC-200	Faisalabad	-	-	-	-	3300	0.750
86	Millat Road	Faisalabad	-	-	-	-	1850	0.910
87	Nawabanwala	Faisalabad	-	-	-	-	1080	0.500
88	Rasool Park	Faisalabad	6	2748	158	0.400	-	-
89	Faisal Town	Faisalabad	5	670	17	0.061	-	-
90	Muslim Town	Faisalabad	-	-	-	-	3400	0.516
91	Saeed Colony	Faisalabad	7	2180	76	0.300	-	-
92	Sheerinabad	Faisalabad	2	830	30	0.110	-	-
93	Ganda Singh wala	Faisalabad	3	678	26	0.071	-	-
94	American Barracks	Hyderabad	-	-	-	-	5297	1.200
95	American Quarter	Hyderabad	-	-	-	-	+4610	0.770
96	American Quarter- II	Hyderabad	-	-	-	-	+3615	0.502
97	Gujrati Para	Hyderabad	-	-	-	-	+3920	0.430
98	Gole Tikri	Sukkur	14	1650	155	0.199	9800	1.700

99	Tench Bhatta	Rawalpindi	1	464	23	0.209	-	-
100	Dhok Matkal and	Rawalpindi	59	10357	640	1.527	595	0.049
101	Dhok Hassu		-	-	-	-	-	-
102	Nawab Colony	Rawalpindi	5	774	36	0.092	180	0.027
103	Habib Colony	Rawalpindi	3	436	24	0.054	-	-
104	Hazara Colony	Rawalpindi	2	252	6	0.020	-	-
105	Meherabad	Rawalpindi	1	210	6	0.019	-	-
106	Farooq-e-Azam Colony	Rawalpindi	1	158	6	0.019	-	-
107	Dhoke Kala Khan	Rawalpindi	1	259	12	0.030	-	-
108	Bilal Colony	Rawalpindi	1	72	4	0.097	-	-
109	Model Colony	Rawalpindi	1	52	5	0.010	-	-
110	Fatima Colony	Rawalpindi	1	101	7	0.015	-	-
111	Dhoke Kala Khan	Rawalpindi	1	334	21	0.045	-	-
112	Rasoolabad	Muzaffargar	-	-	-	-	277	0.015
113	Shagai	Swat	3	985	29	0.102	660	0.076
114	Aman Kot	Swat	21	2599	113	0.343	800	0.077
115	Banr	Swat	1	450	17	0.043	-	-
116	Chalyar	Swat	49	5015	300	0.496	2696	0.195
117	Lodhran	Lodhran	102	19277	707	1.841	12835	2.938
118	Thakkerwala	Lodhran	-	-	-	-	1600	0.350
119	Faizabad	Lodhran	-	-	-	-	700	0.200
120	Juggowala	Lodhran	22	11816	209	0.637	4373	0.983
121	Lahori	Lodhran	8	1922	120	0.248	4240	0.674
122	Duniapur	Lodhran	13	2523	104	0.247	496	0.022
123	Ibrahimwala	Lodhran	4	896	13	0.043	-	-
124	Dehnote	Lodhran	4	633	25	0.058	-	-
125	Kherorpucca	Lodhran	2	273	6	0.017	-	-
126	Uch	Uch	32	4185	125	0.668	9516	N.A
127	Mohallah Khawajgan	Uch	5	499	24	0.064	550	0.034
128	Uch	Uch	-	-	-	-	1055	0.095
129	Gulnar Colony	Multan	7	1016	78	0.180	349	0.066
130	Islam Pura	Multan	5	659	35	0.096	-	-
131	Datta Colony	Multan	1	200	10	0.028	-	-
132	Chah Taqiwala	Multan	-	-	-	-	3865	5.060
133	Ghausabad	Multan	-	-	-	-	2000	0.500
134	Amirabad	Multan	-	-	-	-	700	0.170
135	Bukhari Colony	Multan	-	-	-	-	800	0.190
136	Shah shams Colony	Multan	39	6483	414	0.958	130	0.009
137	Mominabad	Gujranwala	16	2979	204	0.317	-	-
138	Irsal Colony	Gujranwala	13	3066	230	0.509	137	0.021
139	Samanabad	Gujranwala	9	1838	142	0.300	230	0.012
140	Ghazipura	Gujranwala	3	361	18	0.044	-	-
141	Raja Colony	Gujranwala	8	2400	174	0.383	240	0.026
142	Kamboh Colony	Gujranwala	1	105	8	0.017	-	-
143	Shahzada Shaheed Col.	Gujranwala	2	1200	90	0.198	-	-
144	Shaheenabad	Gujranwala	-	-	52	0.072	*700	0.08
145	Mirza Colony	Gujranwala	3	557	31	0.072	-	-
146	Shahrukh Colony	Gujranwala	6	1054	55	0.152	-	-
147	Sarfraz Colony	Gujranwala	1	137	5	0.015	-	-
148	Camp # 4	Gujranwala	1	265	13	0.035	-	-
149	Tariqabad	Gujranwala	6	1310	87	0.202	*315	0.038
150	Jagna Town	Gujranwala	7	1828	114	0.311	-	-
151	Khalid Colony	Gujranwala	1	145	11	0.024	-	-
152	Kot Habibullah	Gujranwala	1	280	20	0.045	-	-
153	Ali Asghar Road	Gujranwala	1	250	14	0.035	-	-
154	Jahangir Colony	Gujranwala	4	1180	55	0.151	-	-

155	Mozam Colony	Gujranwala	1	265	17	0.040	-	-
156	Islam Pura	Gujranwala	1	280	20	0.046	-	
157	Mubarik Shah	Gujranwala	2	297	15	0.041	-	-
158	Gulshan Town	Gujranwala	1	150	9	0.022	-	-
159	Mian Sansi	Gujranwala	1	360	33	0.068	-	-
160	Shamsabad	Gujranwala	1	75	5	0.011	-	-
	Total		2650	533657	31570	54.101	186343	116.613

* Work in progress + Work stopped ❶ Incl treatment plant

Appendix – 12

Results of the 1989 Schools Survey in Orangi

Table – 1

Official and Private Schools

Schools	Official	Percentage of Total	Private	Percentage of total
Pre-primary	0	0	203	100
Primary	56	21.5	205	78.5
Secondary	20	16.5	101	83.5
Total	76	11.0	509	89.0

Table – 2

Students at Official and Private Schools

Schools	Total	Official	Percentage of Total	Private	Percentage of total
Pre-primary	5,602	0	0	5,602	100
Primary	42,049	16,787	39.9	25,262	59.1
Secondary	32,940	9,473	28.7	23,467	71.3
Total	80,591	26,260	32.5	54,331	67.5

Table – 3

Male and Female Students

	Schools	Students	Male	Percentage	Female	Percentage
Pre-primary	203	5,602	2,905	51.85	2,697	48.14
Primary	261	42,049	22,896	54.45	19,153	45.54
Secondary	121	32,940	18,491	56.13	14,449	43.86
Total	585	80,591	44,292	54.95	36,299	45.04

Table – 4

Male and Female Teachers in Private Schools

	Schools	Teachers	Male	Percentage	Female	Percentage
Pre-primary	203	253	10	3.9	243	96.05
Primary	205	644	204	31.7	440	68.32
Secondary	101	921	243	26.4	678	73.62
Total	509	1,818	457	25.1	1,361	74.86

Table – 5

Male and Female Teachers in Official Schools

	Schools	Teachers	Male	Percentage	Female	Percentage
Pre-primary	0	0	0	0	0	0
Primary	56	336	158	47.2	178	52.98
Secondary	20	235	128	54.5	107	45.53
Total	76	571	286	50.1	285	49.91

Table – 6

Percentage of Segregated and Co-educational Schools

	Official Segreg.	Schools Co-ed.	Private Segreg.	Schools Co-ed.
Pre-primary	0	0	9.3	90.7
Primary	48.2	51.8	10.2	89.8
Secondary	90.0	10.0	25.7	74.3
Total	59.2	39.8	12.9	87.1

Source: Khan, Akhtar Hameed, Orangi Pilot Project Programms, April 1991

Appendix – 13

The Development of Human Resources at the OPP

It was not difficult to recruit staff for working with the OPP in the initial stages. However, it was difficult to train the staff in understanding the OPP philosophy and in following its methodology. This became even more difficult once OPP's work expanded beyond Orangi. Yet the OPP was able to develop the necessary human resources required for the development and expansion of its work. What these human resources are and how they were developed is perhaps the most important achievement and asset of the OPP.

Broadly speaking, the OPP staff consists of professionals, social organisers and technicians. The professional's work consists of research into the problems of Orangi residents; identification of their own solutions to these problems; and again through technical research, the development of a better package of advice. The professionals also prepare extension literature and supervise physical work. All professional research has to be compatible with the sociology and economics of low income residents. The results have to be 'doable' by them and they have to be maintained and looked after by them.

The social organisers are recruited from the community. Their work consists of contacting people, helping to organise them, extending the various packages of advice and monitoring them and identifying issues and problems in the community that are relevant to the development work to be carried out or that which may need to be carried out in the future. The social organisers are the link between the people and the professionals and their involvement in, and feedback to, the professional's work keeps it rooted to the field reality.

The technicians are also recruited locally. They work with the social organisers, supervising physical work and helping to extend the package developed by the professionals. To do this they and the social organisers have to work as a team. The technician has to also work with the professional so that he can understand the package of advice and report back to the professional on the technical problems with the package.

In the initial stages, the OPP tried to recruit experienced professionals. However, it soon discovered that such professionals found it very difficult to relate to the OPP's philosophy and methodology. They were too deeply rooted in the conventional manner of doing things. Subsequently, the OPP had to rely on a consultant and young graduates who were able to grow with the OPP. It was possible for these graduates to unlearn some of what they had been taught at their universities and to learn from the people, social organisers and technicians and to teach them as well.

The social organisers have played a very important role in the development of the OPP. In the initial stages of the OPP, when Akhtar Hameed Khan was establishing his contacts with the leaders, organisations and people of Orangi, he recruited persons whom he felt were suitable for the job. The choice was made intuitively but this institution had a long experience behind it. It so happens that all the social organisers have a number of things in common. They are all political persons in some way or the other. They have all been active in the neighbourhood organisations. The Orangi political leadership has depended on them for support. They all have an element of radicalism and understood much faster than their neighbours what Akhtar Hameed Khan was trying to say. They had all been involved in some way or the other in the development of Orangi Township. With their political background it was easy for them to communicate with the people, organise meetings and help settle sociological and organisational problems that keep cropping up in community related work.

The technicians consist of plumbers, draughtsmen and surveyors. The plumbers and surveyors are residents of Orangi and were working in these fields before they joined the OPP.

The professionals, social organisers and technicians all come from different backgrounds. When they started working together they all had different views of development that were shaped either by their education or their life experience. For them to work together it was essential that they develop a common viewpoint regarding the work they were being asked to support. It is here that Akhtar Hameed Khan played his role as a teacher. From the beginning of the project till 1988, weekly meetings of the entire OPP staff were held. The week's work was discussed at these meetings along with its sociological, technical and economic aspects. Every member presented his report. Jobs, which included the writing of experiences, were assigned at these meetings and work assigned at the previous meeting was reviewed and evaluated. This exchange in itself was an enormous learning experience for everyone. It was further enhanced by Akhtar Hameed Khan's analysis, advice and the manner in which he related the micro-level issues presented by the staff to larger national and international realities. The director's report to his staff, with which the meeting began, discussed threadbare the negotiations he may have had with international agencies, government officials and institutions, or with national and local politicians. Accounts were also discussed and nothing was kept secret from the staff. In addition, every member of the staff was encouraged to write and his writings were published in the magazine of the OPP.

Through these meetings a vision of development was passed onto the staff. They came to understand the close link between social, economic and technical issues; their skills were upgraded; and most important of all, a strong bond developed between them. This bond was not only based on a common development vision but also embodied in it the values of diligence, frugality, modesty and account keeping and transparency.

After the upgrading of OPP into four different institutions in 1988, each institution has separately continued this tradition of weekly meetings in which the same process is followed. Every institution now brings out its own newsletter and progress reports.

Due to the process described above, professionals, social organisers and technicians have no difficulty in relating to each other. As a matter of fact, the social organisers have acquired the skills of the technicians and most technicians have become excellent social organisers. Some of the social organisers and technicians can partly fulfil the role of the professionals, and almost all the professionals can partly fulfil the role of the social organisers. In addition, technicians and social organisers have also upgraded their skills. Some of them, with OPP support, have taken courses in surveying and mapping and others have acquired skills in computer sciences. Thus, with its limited manpower, the outreach potential of the OPP has been considerably enhanced.

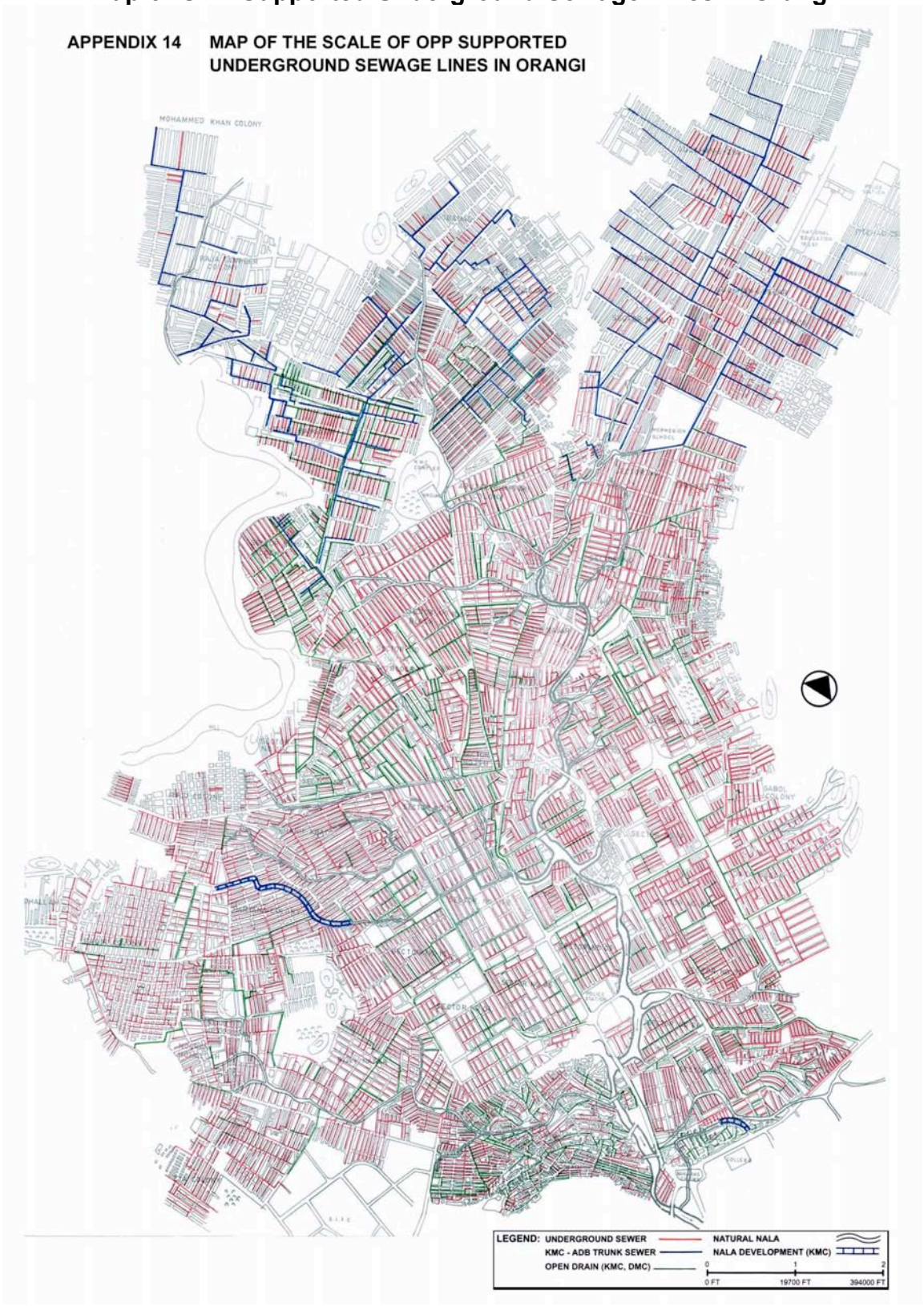
However, OPP's human resource development has not only been limited to the Orangi staff. Over 5,000 lanes have financed and managed the construction of their sewerage lines through OPP advice. Each lane elected, selected or nominated its lane manager. These lane managers and their assistants collected and managed the money of the people and also organised the construction of the sewerage system with active participation of the lane residents. Many of the lane managers subsequently became involved in the other programmes of the OPP and have developed as effective extension agents. They are now the promoters of the OPP concept of development through community participation and self-help.

This development of human resources is impressive. But the OPP still finds it difficult to deal with the increasing number of requests for assistance for the replication of its programmes that it is receiving from numerous CBOs, NGOs and from the SKAA. To overcome this problem, the OPP has started training young people and students from the settlements where it is working, as technicians. These young people are trained to survey and map the settlements; develop physical designs; and as inoculators for the immunisation programme. They receive training through an apprenticeship with the OPP-RTI for a period of time. Funds for this training are provided by a number of international NGOs. The surveyors and designers being trained will, it is hoped, set up their own offices and become self-sufficient by charging fees from their clients or from the local organisations that will seek their support. Similarly, the inoculators will also become associated with the private clinics that exist in large numbers in all low income settlements in Pakistan and who experience a major difficulty in getting trained staff.

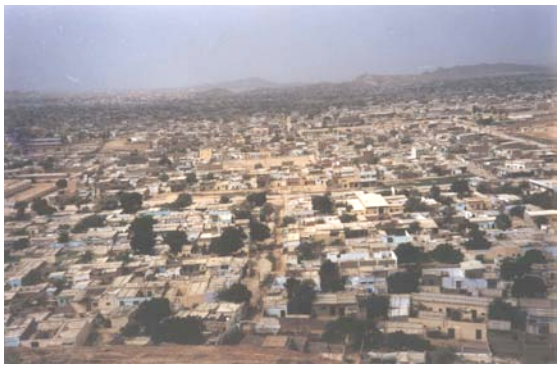
As a result of this human resource development, the OPP-RTI can carry out its training activities and give technical support to NGOs, CBOs and government agencies. All the staff members (professionals, social organisers and technicians) collectively participate in the training exercise and where necessary, lane managers and extension agents are brought in. The Orangi area, which has been the scene of the OPP's activities for the last 15 years, serves as a demonstration area. As a result, every trainee, irrespective of his social class and education background, can relate to the trainers at the OPP-RTI.

Source: *Hasan A, Akhtar Hameed Khan and the OPP, City Press Karachi 1999*.

Map of OPP Supported Underground Sewage Lines in Orangi



APPENDIX – 15
PHOTOGRAPHS



1. Overview of Orangi: Population 1.2 million

2. Typical conditions in Orangi before the OPP-RTI started work.

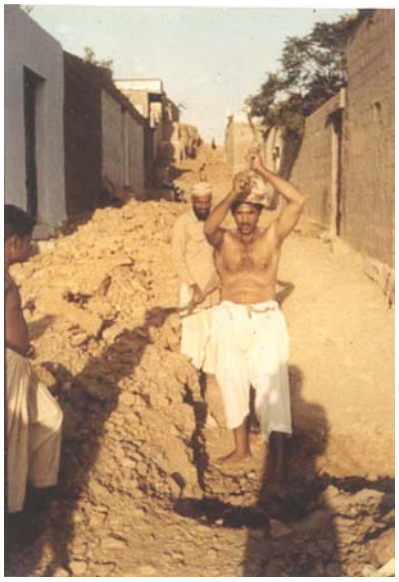
3. Research being carried out to make technology compatible with the sociology and economics of low-income groups.

4. Meetings held to mobilise people for the sanitation programme.

5. OPP-RTI technical team surveys lanes on requests.

6. Plans and estimates are being prepared for the lanes at the OPP-RTI office.

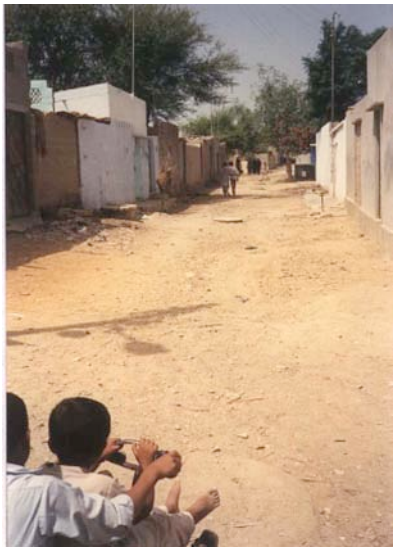
7. Elected lane manager from each lane collects money from each household.



8. Work being done.

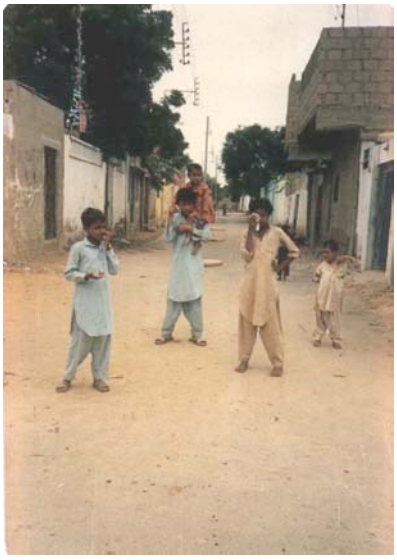
9. Manholes being cast.

10. A lane before…



11. … and after.

12. Another lane before…

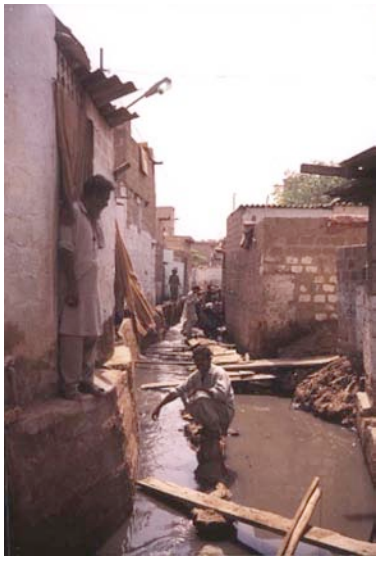


13. … and after.

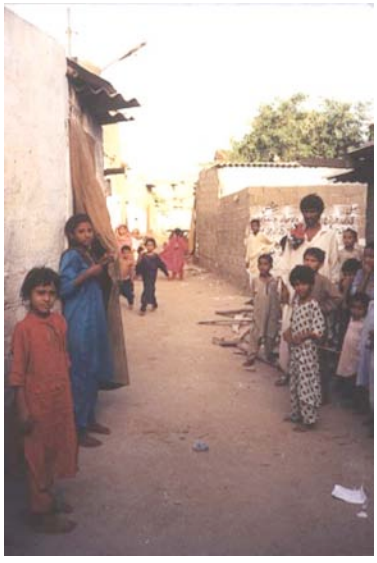
14. The OPP-RTI has proposed the conversion of natural drainage channels into box sewers to the local government.

15. An open natural nala in Orangi before….

16. … and after local government built it according to OPP-RTI designs.



17. An open nala in a Karachi settlement before…



18. … and after being developed by SKAA with support from OPP-RTI.

19. The OPP-RTI monitoring construction at site.

20. Union Council Plan Books are prepared by the OPP-RTI on requests. A Union Council office in Orangi.

21. The URC and OPP-RTI arrange forums bringing together various formal and informal organisations concerning development issues.

22. A Sewage Master Plan for Karachi has been prepared by the OPP-RTI as an alternative to the government's Greater Karachi Sewage Plan.

23. The City Nazim visiting the OPP-RTI to discuss the development of infrastructure on a city wide basis.

24. Natural creeks and storm water drains have become major sewage disposal points all over Karachi.

25. The catchment area of this nala at Manzoor Colony is 1/6th the population of Karachi !

26. And after the nala was built by the government into a box trunk according to OPP-RTI designs.

27. A lane in Faisalabad before it was developed by the Anjuman-e-Samaji Behbood (ASB).

28. … and after it was built.

29. CBOs and NGOs come together at forums held through joint effort of URC and OPP-RTI and present their work.

30. OPP-RTI partners at the Community Development Network discuss their programmes and issues.

HOUSING

31. Poor quality houses were built in Orangi.

32. A conventional thalla.

33. Defects in the thalla built housing in Orangi

34. Sagging roofs.

35. The OPP-RTI housing research and extension team.

36. Mechanized block making at upgraded thallas.

37. New roofing systems being introduced at upgraded thalla.

38. Masons are being trained to use the new building products.

39. A house built using OPP-RTI technologies.

40. The Technical Training and Resource Center in Orangi.

41. An experiment for alternate roofing being conducted.

42. Another alternate for roofing is being experimented.

EDUCATION

43. Teacher's training taking place at the OPP-RTI building.

44. Process of upgrading schools in Orangi.