Final Report

The Economics of Resettling – A Case for in Situ Slum Upgradation

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Introduction

Those against far site slum resettlement believe that relocation distances people from their livelihoods triggering economic shocks that push households into poverty. Those for slum upgrading reason that improving quality of people's environments at their existing place of stay or close by betters their overall quality of life.

This study was an attempt to resolve the argument by gathering information on both the positive and negative effects of the two processes in the wider context of macro economic change. The study estimated both the real and the intangible costs incurred in resettlement and on site upgrading at the household and city level for two cities Delhi and Mumbai using a range of indicators to estimate the cost and benefits of both the options. Both qualitative and quantitative data was collected for the study from three resettled and three non-resettled sites in Delhi and three upgraded and three non-upgraded sites in Mumbai.

Slums: The Facts and Figures

Slum dwellers constitute 43 percent of population in the developing regions. India's first ever-national Census of slums made in 2001 estimated a total slum population of 40.3 million.

Slums, according to UN Habitat are highly congested urban areas marked by deteriorated, unsanitary buildings, poverty, and social disorganization. Most significantly slums lack security of tenure.

In India the Draft National Slum Policy by the government has adopted the definition followed by the Census of India for Slum as "an area with 25 or more temporary housing structures in a huddle, with practically no access to or inadequate access to latrines and water facilities".

Census of India 2001 for Delhi estimated 1.85 million people as living in slums. Proportion of city residents in Mumbai slums is 54.7%. Slum growth according to the Society for Development Studies is four and half times higher than non-slum growth.

Urban poor are considered to be synonymous to slums and the two terms used interchangeably. Based on poverty lines prepared by the Planning Commission 9.42 percent of

Delhi's population (11.42lakh people) and xxxxxx live below the poverty line. Poverty according to the Planning Commission is a function of low-income and lack of basic services, shelter and control. Poor households have been classified in the Tenth Plan into **core poor, intermediate poor and transitional poor**.

Slums are often the first stopping points for poor migrants that provide low-cost affordable housing in the absence of concerted effort by government agencies to create housing for the poor. Slum formation has also been closely linked to national economic cycles, trends in national income distribution and national economic development policies. Several approaches have been used for slum development. Slum upgrading, relocation and resettlement, and participatory slum improvement.

The Economics of Slum Clearance

Slums play an important role in building the city economy, in particular through their work in the informal sector, which is a vibrant support to the city economic system. Total contribution to employment by the organized sector was only 8 percent, the balance coming from the unorganized sector. It is said to accounts for 66.7% of total employment in Delhi and nearly the same share (68%) in Mumbai. Any disruption in the informal sector has implications on the city and it's functioning. The Economic Census rarely captures the contribution of the informal sector although the strain that informal employment places on the poor households ensures a proliferation of slums. In Delhi around 30% of the population have only informal rights over the land that they inhabit, suggesting that slum clearance could cost the city huge amounts.

Household incomes of slum families have been estimated to range between Rs.100-1443 with 40 percent workers drawing less than minimum city wage through work such as hawking and street vending, providing services and home-based work. Informal sector employment also denies the poor, mostly women, protection under labour laws. Women being largely uneducated /unskilled normally engaged in low-paid, low-end, insecure, informal economic activities.

Objectives of the Study

Specific objectives of the study are to estimate /examine the Impact of resettlement on livelihoods and incomes of the poor, and on the city economic development; to analyze the cost of re-employment of poor in terms of re-skilling, exploring new markets/options and the cost of

onsite upgrading versus relocation to the government and; to highlight the differential impact of resettlement on different groups of poor to make recommendations that respond to the vulnerabilities for the poor

Methodology

In Delhi, three relocated sites, Bakkarwalla, Bawana and Bhalawsa; and corresponding three non-relocated sites Gole Market, Yamuna Pushta and Rohini Sector 3; were selected, where as in Mumbai, three upgraded sites and corresponding non-upgraded sites Mulund, Borivilli and Dharavi; were selected for the study.

Resettled Sites in Delhi were selected keeping in view the time period of relocation and the distance of the settlement from the resettled site. Medium sized settlements from all parts of the city were taken to ensure complete coverage of the city. Non intervened or matching settlements were those in close physical proximity to the intervened settlements, of comparable size and existence

In case of Mumbai, the three on-site upgraded sites (settlements) were those that formed part of the Slum Redevelopment Scheme. Non-upgraded sites (Matching sites) were selected from the vicinity.

Primary data was collected from the selected sites by using a combination of household questionnaires, participant observation methods, PLA techniques and household mapping to obtain quality and quantitative information. Stratified random sampling method was adopted to select the sample size for primary data generation.

Specific statistical tools such as Gini Coefficient, Lorenz curves, head count index and Sen Index were used to measure increase or decrease in inequality and poverty.

In order to estimate the impact of relocation on the city economic growth a cost benefit analysis has been carried by quantifying the monetary value of the possible benefits and costs and estimating Net Present Value (NPV) and Benefit Cost Ratio (BCR)

Based on the analyzed data conclusions and policy recommendations have been made for slum development.

Main Findings of the Study

1. Household Incomes improve for Upgraded Households

Average household income in Delhi had decreased by over Rs200 per month following resettlement. In comparison, average household income of upgraded sites in Mumbai was 10.61 per cent higher than average household income of non-upgraded sites.

2. Per capita Income declines for Resettled and non-resettled Households

Per capita income at relocated sites in Delhi estimated at Rs.748.18 per month had declined following resettlement by Rs31.55p from the previous earnings and by nearly twice that amount (Rs74.02p) from the corresponding non resettled sites. In Mumbai, per capita income at upgraded sites was Rs175 more than at the non-upgraded sites, a huge jump in the income following upgrading.

3. Earning Members

A marginal decline of 1.5 percent in the number of earning members in relocated versus non-relocated sites in Delhi was noted from the survey data. In contrast, number of earning members rose by 0.39 per cent from 32.77 per cent to 33.26 per cent in the upgraded sites of Mumbai.

4. Resettlement: Disempowering Women

Relocation has resulted in loss of employment for female workers. On the other hand, upgrading has actually increased contribution of women in the city economy.

5. Opportunity-Skill Mismatch following Resettlement

Livelihood opportunities showed a dramatic change following resettlement from unskilled work to manufacturing in local industries. Very few members professed to have the required skills for working in these industries, suggesting a mismatch between people's skills and livelihood opportunities.

6. Changing Nature of Employment for women

Following relocation, domestic work among women declined and was replaced by self-employment and daily wage work.

7. Changes in Household and Production Assets

Economic pressure due to relocation (payment for plot, shifting and house construction) has forced many households to sell assets, both production and household goods. Ownership of household assets dropped by over 50 percent. In Mumbai, all upgraded households show increased ownership of assets when compared with non-upgraded sites.

8. Change in Housing Ownership

More households in Mumbai owned houses following upgrading. Slum dwellers in Delhi benefiting from resettlement were deemed owners of houses even though these were on illegally occupied land. Security of tenure offered through resettlement at present was thus not a sufficient condition for development in view of the livelihood displacement.

9. Long Distances to work place reduces disposable income

Nearly 62 percent earning members in resettled sites experienced an increase in distance to work destination following relocation. While prior to relocation, a significant proportion of people traveled on foot to their work places (25%), in the relocated sites majority of earning members used the local bus to get to work (75.9%).

10. Change in Nature of Employment

Full time employment among earning members dropped significantly, with nearly one-third less full time employees in the resettled sites as compared to non-resettled sites. A small percentage of people even lost their jobs following the resettlement. In comparison, in Mumbai, full time employment increased by almost 40 percent and daily wage employment dropped sharply, by almost 18 percent.

11. Changes in House hold Expenditure

Average monthly household expenditure increased in both the cities. However, while in Delhi the expenditure analysis reflected an increase in vulnerability, in Mumbai the rise in expenditure was indicative of the increased wealth of these households.

In Delhi the average monthly household expenditure increased between Rs 218 and Rs 138 per month when compared with matched sites/pre relocation expenses respectively. In Mumbai, the increase was considerably higher and ranged between Rs.843 and Rs966 per month when compared with non-upgraded sites/ pre upgrading.

Itemized analysis of expenditure data for Delhi attributed the higher spending to travel and health. Coping mechanisms included reduction in food, education and clothing costs. Food expenditure in Delhi dropped by nearly Rs250 per household as compared to non-relocated households indicating deepening food insecurity.

In Mumbai spend on food increased by over Rs 400 per household when compared with non-upgraded sites. Mumbai households also spent more on education and entertainment.

12. Increased Expenditure on Travel

Share of travel cost to household expenditure in relocated sites of Delhi increased by over 11percent as compared to the non-relocated sites. On an average each household was found to be spending Rs.428.09 as additional travel costs.

13. Increased Expenditure on Health

Health expenditure for relocated households however appears to have increased rather than decreased following resettlement because of inadequate water and sanitation services. The average household expenditure on health was estimated at Rs.109.25 per month for a single relocated household in Delhi.

14. Eroding Social Safety Nets

Data from the survey clearly indicates a dissipation of the community social capital following relocation in Delhi. Membership of associations declined from 26 percent in non-relocated sites

to merely 9.4 percent. In Mumbai, the social capital not only remained intact, but also improved when communities were organized into cooperatives to enable upgrading.

15. Impact on Household Savings

Relocation in Delhi had led to depletion in household savings. In order to meet cost of the plot, shifting and rebuilding, households used up their savings, disposed assets or borrowed. Cost of relocation in terms of loss of savings was found to be Rs.142.79 per month for a single relocated household when compared to its previous savings, and Rs345.70 p when compared with savings in the matched households.

Percent of households in upgraded sites in Mumbai having savings was found to have increased to 28.2 %, an increase of about 7 percent when compared to non-upgraded sites. In Delhi however, only about 4 percent of resettled households were found to be saving.

16. Relocation Pushing People into a Debt Trap

Relocation in Delhi has meant additional costs for households with regard to payment for plot and shifting costs. These costs have been minimal in case of Mumbai where housing was free for the family, who only incurred costs with regard to shifting during the construction period.

Loan and borrowing has increased liability of relocated households in terms of interest payments and debt repayments. Monthly interests for plot and house construction at Rs.472 and Rs.1010 per month respectively adds up to **Rs.1483.66 per month** for a household.

17. Casualty Education

Relocation has resulted in schools being put out of reach of children. Dropout rates in Delhi estimated from household mapping suggest that it has increased four times following resettlement from 7 percent to 32.54 percent. Dropouts have also increased in non-resettled sites with NGO run schools shutting shop. In Mumbai, dropout rates were almost 6 percent lower in upgraded sites vis-à-vis non-upgraded sites. In the long term education disruption is likely to have a negative impact on city's economic growth. Upgrading on the other hand is clearly an indication of school retention.

18. Improved Access to Housing, Physical and social infrastructure

Upgraded communities in Mumbai as expected, witnessed remarkable change in housing conditions with all households having permanent structures with basic amenities. By comparison in the resettled sites in Delhi nearly 96 percent households were still living out of temporary or semi permanent houses as families lacked resources were unable to rebuild immediately.

In Delhi, none of the relocated households had access to piped water supply at their homes, despite legal ownership of land. Only about 5% area in the resettled sites had been provided with covered drainage, about 75 percent had open drainage and balance had no drainage. In contrast in Mumbai all households in upgraded sites had piped supply in the households.

Delhi resettled households continued to depend on community toilets whereas all upgraded households in Mumbai had toilets inside their premises. Solid Waste collection services were not available in the resettled sites of Delhi as yet. In the absence of such services likelihood of slum like conditions building up in the relocated sites was very high.

Unlike Mumbai where all households had metered electricity supply, access to electricity in the resettled households in Delhi did not change significantly despite legal stay arrangements following resettlement.

Access to health services remained largely unchanged for families after relocation. However, access to government hospitals became difficult, resulting in increased dependence of people on private doctors and nursing homes.

Access to communication services in resettled households increased by 25 percent, possibly due to increased demand for these facilities at the resettled sites.

Data from Delhi was analyzed with regard to availability of bus stops. This was because no change with regard to access was reported from the upgrades sites. Almost 27 percent households felt that bus stops were now farther off, between 250 and 500 meters from their homes

During FGDs, resettled households complained that the following services were missing in their areas; markets, post offices, police station, parks etc.

19. Vulnerability Analysis

a. Impact of Relocation on Poverty Levels

In Delhi, poverty has increased following relocation of households. Share of poor to the population increased by nearly 5 per cent. In the non-relocated sites, share of poor people to the population at 33.51 per cent is lower than that in the relocated sites.

Number of core poor households in non-resettled sites doubled following relocation. Intermediate poor were also found to have become poorer following relocation.

In Mumbai on the other hand, core poverty less than halved following upgrading. Most remarkable change was noted in the drop in intermediate and transitional poor. This clearly suggests that while upgrading leads to a decrease in poverty levels, resettlement in the short term actually increases poverty of the poor households.

b. Head Count Index

Head Count Index suggests that while poverty in upgraded households of Mumbai declined significantly, moving closer to zero (0.0644), in case of Delhi it deepened following the relocation (0.3712).

c. Gini coefficient

Gini Coefficient analysis suggests that even as incomes of upgraded households in Mumbai have collectively risen, inequality between the rich and the poor households has deepened suggesting that upgrading too needs to be managed with greater sensitivity to ensure that benefits of this accrue equally to all households.

In Delhi, too the inequality has increased albeit marginally following relocation suggesting that relocation has not had the expected impact on poverty alleviation as envisaged.

d. Lorenz Curves

The Lorenz curve and the Gini coefficients show that although poverty levels in the upgraded sites have definitely reduced inequality between the rich and the poor has deepened. The Lorenz curve of the upgraded sites of Mumbai indicates that inequality among non-upgraded sites was found to be much lower than the upgraded sites.

e. Sen Index

Sen index developed for upgraded and non-upgraded sites in Mumbai and resettled and non-resettled sites in Delhi show that far site relocation has had a negative impact on poverty levels with poverty increasing in the resettled sites of Delhi.

20. Impact on City Economy

The service sector contributes 59% of Mumbai's Income and 75% of Delhi's income. The growth of slums in both the cities is attributed due to the demand factor, particularly cheap labor.

Relocation of them into far away places reduces their incomes and employment opportunities. This, in turn affects the city economy. The invisible costs of relocation to the city economy such as school drop out of children, women unemployment, health risk, would become more visible in the long run.

The economic development of the city is also determined by the supply of quality labour in the long run. When a significant share of the city population, particularly the low income groups are relocated, the resultant economic shocks will not only limited to the affected households but also pave seeds to a larger shocks to the city economy. Suitable policy interventions are required to correct this. The city managers seldom include the invisible costs into the cost benefit analysis of the projects involving relocation of slum dwellers.

21. Cost-Benefit Analysis

a. Benefits of Resettlement

Land value of evacuated site

Land value of evacuated areas is very high since these are prime areas in the city. The value of such land has been estimated as Rs.21531.08 per sq. m (Rs.21.53Crore/hectare). For a single relocated household, the value of evacuated land is **Rs.4.67 lakhs** (i.e. Rs.21531.08/sq.m * 21.7 sq. m) taking into consideration the real estate values while working out the estimates for values of evacuated land.

Net taxes and charges

Evacuated land successfully utilized for developmental and commercial purpose generates one per cent of the land value as net taxes and charges. This has been estimated as **Rs.4670** from the evacuated land of a relocated household.

Employment Generation

Development projects on evacuated land generate employment opportunities. The income generated from such activities has been estimated as Rs.60 lakhs per hectare per year. From the evacuated land of one relocated household this income is about **Rs.10890 per year.**

b. Benefits of Upgrading: Increased Incomes

The average income of non-relocated households in Delhi has been estimated as Rs.4189.11 per month. It has been estimated the benefits of increased income from on site upgradation is **Rs. 444.45 per month** per household (Rs.4189* 10.61). This is about Rs.5333 per year per household.

c. Costs of Resettlement

Cost of procurement of land for relocation

The average land value of the relocated area has been estimated as Rs.8.36crores per hectare. Therefore, the cost of relocated land for a household has been estimated as **Rs 4.18 lakhs** at 2004 prices**.**

Civic amenities

The cost of developing the relocated land and providing civic amenities to the relocated settlements has been estimated as **Rs.40,000** per household .

Other costs

Other costs for house and related relocation costs such as shifting costs, etc. borne by the households has been estimated as Rs.68445 per household. Income loss to settlements has been estimated as Rs.206.20 per month per household. The additional travel cost is found to

be Rs.428 per month per household. Additional expenses on health care have been estimated as Rs.109.25 per month per household. Analysis on savings shows that loss of savings due to relocation is about Rs.142.79 per month per household. The cost of bus service has been estimated as Rs.2628 per household. The cost of DTC bus service is Rs.30 per km and it is assumed that there have to be a minimum 4 trips to these settlements connecting them to the main city. In addition each household experienced a loss of nearly Rs3000 during the process of shifting following the relocation by staying off work.

d. Conclusion

In the case of resettlement of slums through relocation, present value of benefits has been estimated as Rs.5.80 lakhs per household whereas the cost is at Rs.9.50 lakhs per household. This gives a NPV of –3.70 and BCR 0.61. This clearly shows that the option of relocation is not economically worthwhile.

In the case of resettlement of slums through onsite upgrading the present value of benefits has been estimated as Rs.2.69 lakhs per household and that of costs Rs.2.57 lakhs per households. This gives a positive NPV of 0.51 and the BCR at 1.24 is greater than unity. This option justifies the economic worth of the project.

Recommendations

Upgrading for Poverty Reduction: First Call of Local Authorities

Data from the study clearly points to upgrading as the better of the two options for slum development and poverty reduction. While upgrading increases incomes of households, far site relocation not only shrinks incomes but also deepens vulnerability. Besides impacting on incomes and household expenditures, its major impact is on schooling of children, who drop out of school because of the distance. Each year of schooling loss has a long-term impact on the GDP of the city.

Upgrading is a win-win option for both the local government and the household. Governments at the national, state and city level need to recognize the benefit of upgrading and ensure that this is the primary option for slum development.

Upgrading must form the Cornerstone of the National Policy on Slum Development

The Government of India may use data from the study to undertake a review of the National Policy on Slum Development. Clear options for states and local bodies may be proposed in the slum policy on addressing the issue of slum development that promotes upgrading rather than relocation.

Social Housing for the Poor

Relocation must be made a conditional option in the Policy. The Policy must therefore address the issue of prevention of slum development through social housing planning. Local governments must be encouraged to build tenement housing for new migrants to cities on cost recovery basis. These could also be developed through private sector participation.

City Master Plans must identify spaces around livelihood options for social housing schemes as also training institutions and information resource centers for livelihood development.

City master/renewal plans must also be integrated with city transport plans. In particular social housing schemes should be on transport corridors to provide links to different parts of the city.

Establishing Linkages to the Urban Renewal Mission and City Master Plans

Linkages may be established with the proposed urban renewal mission and the slum policy. Greater interface between the process of master plan development in the cities and the Slum development policy is essential and the two must feed into the urban renewal mission.

Advocating Benefits of Upgrading and Discussing Costs of Relocation

It is important to advocate the long-term benefits of upgrading to city managers and sensitize them to the impact of relocation.

Relocation should be conditional and undertaken if and where absolutely essential and city renewal should not be seen as a valid reason for relocation.

City level Slum Development Committees need to be constituted with proper representation of affected communities and their leaders, NGOs and the civil society groups to ratify decisions on relocation.

Participatory Planning for Upgrading

Planning for slum upgrading in all cities should be a participatory process in which the community members must be engaged. Community cooperative societies as in case of Mumbai should be included in developing plans for the building and selection of services and options based on current or future livelihood needs.

NGOs must be made partners in the process of slum upgrading, both for the purpose of organization, informing community of their Rights and responsibilities, developing systems for community management of services and to serve as regulator. Where possible, NGOs may be contracted to construct the houses or community facilities as in case of toilet building in Pune and Mumbai.

Participatory Planning for Relocation

Relocation must be planned properly and managed with sensitivity. Slum dwellers must be organized into cooperatives for relocation. Housing cooperatives should comprise all residents in the settlement and exclude owners that have moved out of the slum settlement but have retained the space in the hope of availing land during relocation.

Preserving Social Capital

Relocation must ensure preservation of the community social capital through formation of neighborhood groups and planned distribution of plots that ensure old neighbors are provided adjacent plots. Community household mapping can be used as a tool to identify layouts of pre-relocated sites and residents of plots.

Distance between relocated and pre relocated site should not be more than 10 kms. This would ensure minimum displacement of livelihoods, schooling and social safety nets.

Livelihood plans must be integral to slum relocation /upgrading plans

In order to minimize household economic shock, city governments must develop livelihood opportunity maps at the proposed relocation sites. This should be followed by an opportunity-skill matching exercise and skill training programs for earning members in the emerging professions/ opportunities in new neighborhoods preparatory to relocation.

Planning for Education and Health Services in Slum Relocation

Education planning needs to be clearly factored into slum relocation plans to prevent school drop out. Besides ensuring that relocation does not happen during school examination period, it must be ensured that school buildings are up and running before relocation and all children shifting here should be given automatic admission to the new schools.

Improving Access to Credit

Livelihood development planning should include access to formal credit for the poor at affordable rates through setting up of community financing facilities. Credit should be available to the poor prior to relocation when they are still settled illegally (to pay for the plot), during relocation (to pay for house construction) and for new livelihood options. These will serve as shock absorbers to prevent slippage into poverty as a result of relocation.

Chapter 1
Introduction

1.1 Slums: The Facts and Figures

World over, 923 billion people or 31.6% urban residents, affirms the UN Habitat, live in slums.[1] The highest percentage of which, is in Asia (550 million) followed by Africa (187 million) and the Latin America and the Caribbean (128 million).

Slum dwellers constitute 43 percent of population in the developing regions. While in the more developed regions, slums make up only about 6 % of the population, in south-east Asia; they constitute 28 percent of the total population. Slum households have jumped by 36 percent during the 1990s. According to UN Habitat, if the present trends continue, this figure is likely to double by 2030. This first global assessment of slums has attributed formation of slums to the rapid pace of rural-urban migration, as millions of poor move to the cities in search of better jobs and incomes to improve their quality of living and environment. This considerable flow of rural-to-urban migrants has emerged as a major form of human settlement, a process referred to as the 'inevitability of urban conglomerations' by HamMUN (2004)[2].

While releasing the Global Report on Human Settlements; The Challenge of Slums, the UN Secretary General, Kofi Annan[3] appealed to the World community to make poverty, history. According to him "even as slums represent the worst of urban poverty and inequality, there are resources, know-how and power to reach slum dwellers and help them to attain lives of dignity, prosperity and peace".

Cities being the core of a country's economic growth, large numbers in slums are a cause for alarm. This led to the establishment of clear-cut targets to improve the lives of slum dwellers. Target 11 of the Millennium Development Goal 7 specifies that by the year 2020 there should be a significant improvement in the lives of at least 100 million slum dwellers, essential for integrating the economy of the developing countries into the world economy.

Fig 1

[1] UN. The Challenge of Slums: Global Report on Human Settlements 2003
[2] HamMUN. The challenge of slums. ECOSOC 2004.
[3] http://www.citymayors.com/report/slums.html

1.2 Slums: Policies and Programmes in India

India's first ever-national Census of slums made in 2001 estimated a total slum population of 40.3 million. The figure may have to be treated as a gross underestimation due to two reasons: a lack of clear-cut definition of slums and enumeration of only the registered /notified slums[4]. A case in point was of Lucknow, which reported zero slums.

1.3 Defining Slums and Urban Poverty

Slums, says the UN Habitat Report, are highly congested urban areas marked by deteriorated, unsanitary buildings, poverty, and social disorganization. Slum life generally entails enduring some of the most intolerable housing conditions, including sharing toilets with hundreds of people, living in overcrowded and insecure neighbourhoods, constantly facing the threat of eviction, diseases and enormous social and psychological burdens and social exclusion. Most significantly slums lack security of tenure.

The Un Habitat distinguishes slums from squatter settlements, that are essentially residential areas in urban localities inhabited by the very poor who have no access to tenured land of their own, and hence "squat" on vacant land.

In India, slum definitions and slum development tasks have been decentralized to the State governments. Differential State definitions have made data comparisons a complex job. The very recent 58th National Sample Survey Organization has defined a slum as "an area with 25 or more temporary housing structures in a huddle, with practically no access to or inadequate access to latrines and water facilities". The Draft National Slum Policy adopted the definition followed by the Census of India for Slum areas:

i. All areas notified as 'Slum' by State/Local Government and UT Administration under any Act;
ii. All areas recognized as 'Slum' by State/Local Government ad UT Administration which have not been formally notified as slum under any Act;
iii. A compact area of at least 300 population or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities.

Fig 1

[4] Periodically, all urban local bodies prepare a list of slums that have been in existence before a cut off date. These are said to notified or registered slums. Such slums are eligible for basic services despite lack of legal land ownership.

The Draft National Slum Policy[5] further stated that:

a) In general, all under-serviced settlements, be they unauthorized occupation of land, congested inner-city built up areas, fringe area unauthorized developments, villages within urban areas and in the periphery, irrespective of tenure or ownership or land use shall be covered under the definition of a slum/informal settlement.

b) The criteria for defining a slum/informal settlement shall take into consideration economic and social parameters (including health indicators) as well as physical conditions. Each State/Union Territory shall lay down the norms/criteria for categorizing an area as under-serviced and the local body of each town shall list all such areas as slums.

For Delhi, the Slum Wing is responsible for listing slums. Its last update for 1994 indicates 1080 slum settlements with bad living conditions. These included illegal and unauthorized colonies, historical settlements (*katras*), resettlement colonies, urban villages and rural villages (Sharma 1998)[6]. The first ever enumeration by the Census of India 2001 for Delhi estimated 1.85 million people as living in slums. For the same period, the Ministry of Environment put the figure at 4.7 million, which was two and half time more than the Census figure. While this constitutes between one fifth and one third of the total city population, according to the report, it excludes people living in the recognized yet underserved areas.

The first official enumeration of slums in Mumbai was undertaken in 1976, which estimated 2.8 million people in 1,680 settlements all over Bombay. A second count in 1983 found 1,930 settlements with 4.3 million people in 924,572 households[7]. Recent estimates suggest that 54.7% of the city's population lives in 3.5% of its area in dense enclaves.

Proportion of city residents in slums varies[8], from 2.9 percent in Kalyan in Mahrashtra to 48.9 percent in Mumbai. Almost half the towns enumerated by the Census 2001 as having slums, counted over 20 percent of populations as living in slums.

Fig 1

[5] http://urbanindia.nic.in/mud-final-site/policies/nationalslumpolicy/slumpol.htm

[6] 7 Sharma S 1998, Management of urban water services in Delhi: A conceptual framework and applications, Unpublished thesis for Master (Honours) programme at the Graduate School of the Environment, Macquarie University, Sydney.

[7] http://theory.tifr.res.in/bombay/amenities/housing/slum-stats.html

[8] **Office of the Registrar General, Slum Populations in Cities, India Census of India,** 2001

Slum growths according to the Society for Development Studies[9] in Delhi were four and half times higher than non-squatter population (natural growth of existing squatter population plus fresh migration) during 1981-94.

Despite huge numbers living in slums in cities, about one of every four developing countries has laws that impede provision of services in these areas[10], concludes a UN report.

Defining Vulnerability

Urban poor are considered to be synonymous to slums and the two terms used interchangeably. It is therefore essential to define the terms urban poverty and vulnerability. Defining Poverty and determining poverty lines in India is the task of the Planning Commission that uses a basket of consumption to arrive at the basic minimum income required to meet minimum calorie requirement. It has set the national poverty line for 1999-2000 at Rs.454.11 per capita per month[11]. Poverty lines for Delhi and Maharashtra were set at Rs.505.11p and Rs 539.71 per capita per month respectively. Based on these poverty lines, the Planning Commission estimated that 9.42 percent of Delhi's population (11.42 lakh people) and 30.52 million people in **Maharashtra** were below the income poverty line in 1994.

The Tenth Five Year Plan for the first time revisited its own assumptions about poverty and the poor based on a technical report developed by the National Institute of Urban Affairs (NIUA)[12] for the Ministry of Urban Development and funded by the ADB. The report concluded that poverty is a function of income as also a lack of basic services, shelter and control. It also indicated that the poor are not a homogenous community. A framework for understanding the multidimensional nature of urban poverty and its vulnerabilities was devised using the official income scale. Poor households were classified into **core poor, intermediate poor and transitional poor**. Core poor households comprised the poorest families with incomes below half the official poverty line or less than Rs 227 per capita per month. Intermediate poor households had incomes between Rs 227 and the poverty line or Rs 454.11p. The transitional poor were households clustered just above the poverty line, relatively better off viz. ownership of productive assets and basic services but at high risk of being shocked into poverty. The

Fig 1

[9] Chakrabarti P.G Dhar, Delhi's Ongoing Debate on Informal Settlements and Work Places – Issues of Environmental Jurisprudence, International workshop on coping with informality and illegality in human settlements in developing cities, Belgium 2001

[10] In a recent study (2004) undertaken for the Delhi Jal Board by the Centre for Urban and Regional Excellence, it was noted that DJB did not have the mandate to offer household connections to slum dwellers. The same is applicable for individual sewerage connections.

[11] GOI. Poverty Estimates for 1999-2000. Press Information Bureau, ND 22 February 2001.

[12] Ministry of Urban Development, June 2001, Reducing Urban Poverty in India NIUA

document suggested that while the core poor required special attention due to the extreme nature of their deprivation, the intermediate poor needed both financial and institutional intermediation to deal with their poverty conditions. For the transitional poor whose incomes were above the official poverty line and 1.5 times over it, safety nets must be established to check a slippage into poverty based upon their particular circumstances. Characteristic features of these households were identified and arranged in an upward/linked chain that moved from survival and security needs, to aspirations for a better quality of life and empowerment in terms of greater visibility, audibility and legal entitlements.

Slum Characteristics

The term "slum" connotes highly dense squatter/informal settlements, lacking in basic services with squalid environments and without legal recognition or rights, even though some may have been in existence for a long time[13].

Characteristic features of slum settlements are: squatting on public or private lands without legal land ownership, impermanent or semi permanent housing, poor access to basic services resulting in highly degraded environments and high health costs. Edging city drains, railway tracks, garbage dumps, low lying flood prone areas, main roads etc. these communities only varied in their degree of 'slumminess'. Illegal and hence invisible, these communities are missed for services or provided shared facilities based on predetermined norms (Swaminathan and Khosla, 1999). Communities were overcrowded, lacked potable water supply and sanitary excreta disposal systems, and dotted with mounds of uncollected waste.

A majority of households in slums are poor, living below official poverty lines and engaged in informal employment. However, there is also evidence as in the case of Pune where slum populations include better off households such as government employees, formal sector workers, university students etc. Slum settlements are often in existence on the same site for several years; in Kolkata the UN Habitat, 2003 report found evidence of slum stability of over 30 years.

Residents of slums are largely rural migrants belonging to the most under developed and economically backward rural districts (Kavitha and Vora, 1996). They are among the poorest in their respective villages and engaged in the most inadequately paid jobs there (Singh, 1993).

Fig 1

[13] DFID. **Upgrading Experiences**, URBAN NOTES, Number 2 May 2000

They own no assets have lost their lands to rural landlords, were victims of hunger / starvation due to their unemployment/ under employment /indebtedness (SPARC, 1985, Mahtani, 1982). Apart from livelihood needs they migrated to the cities due to family conflicts, natural calamities or health emergencies (Ramchandran, 1972; Mahtani, 1982, SPARC, 1985, Singh, 1993).

Household vulnerability in cities deepens with the nature of shelter and employment available. Unskilled migrants find employment primarily in the informal sector with low wages and high insecurity. High cost of land and insufficient income /savings compels them to stay in 'slum' settlements/ pavements (SPARC, 1985). Slums according to Singh and Kishore (1993) are generally located close to work places although often in deplorable conditions, to save transport costs (CWS, 1981; Ramchandran, 1972; SPARC, 1985; NIUA; 1984). Over a quarter of urban India lives in kutcha/semi pucca housing (MOUA&E, 1991) with about half having an individual tap (GOI, 1996) and a private latrine (NSSO, 1992).

Almost all residents (96%) own the one-room hut they live in, although the land does not legally belong to them (Mahatani, 1981). Dwelling size ranges from an average 131 square feet in Delhi to 100 square feet in Jaipur (PAC, 1998; ASTHA, 1996). Average family size is between 5-6 members (Dubey and Gangopadhayaya, 1998). Families are found to have lived in the same settlement for nearly 15 years (PAC, 1998) owning assets such as bicycles, televisions and pressure cookers.

Inadequate basic services are main reasons for social disintegration among the poor (Barra, 1997). A Benchmark survey of poor settlements in 141 cities in 1993-94 found only 63 percent areas reached for water supply (NIUAa, 1997). Women had to fetch water from a common tap in the neighbourhood, located at an average distance of about 0.5km and servicing over 150 households (Singh, 1993; GOI, 1996). Water supply varies in quality, supply and timings (ORG, 1995, CSE, 1982) with families receiving less than the recommended supply/quality. Drainage is practically non-existent and almost all drained water mixes with ground water at the base of hand pumps, where these are the only sources of drinking water. Women spend 3-4 hours daily in filling water (SPARC, 1985) waiting in long queues, and conflicts are quite customary (Singh, 1993). Girls miss schools to stock water where mothers worked outside (NIUA, 1999).

Sewerage systems do not reach about 34 percent of urban dwellers, almost entirely missing the poor (GOI, 1996; PAC, 1998). Nearly 90 percent of the country's urban population has access to pucca drains (open: 40 %, closed: 50 %). Figures from the 58th NSSO round suggest

that in Delhi nearly half the population (47%) was covered by open but pucca drains. Community latrines are built only in recognised areas covering just half the settlements except in Mumbai where coverage was 92% (PAC, 1998; Singh and Kishore, 1993). Local authorities are generally disinclined to use slum development funds for toilet building (NIUA, 1997b). Only 13 percent families in Indore were found to have personal latrines and data indicated that between 29 to 71 percent poor defecated in the open (UNICEF, 1996; NFHS 1992-93). Malnutrition levels are higher in households without toilets (NFHS, 1992-93, Urban Poverty, 1996). Community toilet complexes are poorly maintained, have poor water supply, are dirty/ unhygienic, and add to disease burden in families. Men rarely used them (Ali, 1998) and young children and girls felt unsafe inside (Khosla, 2000). Garbage was found to be collected in only half the Delhi settlements with half the families dissatisfied by the service (PAC, 1998).

Ill health as an outcome of environmental degradation has severe economic /social consequences with half the urban poor population suffering from one or more diseases associated with insufficient or inadequate quality water supply (WHO, 1996). Incidence of diarrhoea ranged between 12-28 percent (UNICEF, 1996) and almost 70 percent diseases were either water or air borne infections (ASTHA, 1996). Health burden was particularly high because of poor sanitation and nutrition. Lower income households lost more days to illness / injury, spent a higher proportion of their income on health care (Rs.3000-Rs.5000 per annum) and needed to access credit or mortgaged assets to meet high health costs (UNNATI, 1996; ASTHA, 1996) resulting in indebtedness /cut backs on food supplies (Pyer, 1989). Inaccessible and crowded hospitals coupled with inefficient public transport resulted in delayed care (PAC, 1998) and high dependence on local unqualified doctors (UNNATI, 1996).

Low levels of literacy deepened vulnerability. In Indore, male and female literacy was only 29 and 18 percent respectively (Singh and Kishore, 1993). Almost one fourth of all settlements had no school in their neighbourhood (PAC, 1998). Enrolments ranged between 68 and 97 percent and regular attendance between 53 and 95 percent (UNICEF, 1996; Singh, 1993). Drop out rates ranged from about 10 percent (UNICEF, 1996) to 30 percent (NIUA, 1997a). Opportunity costs due to lack of education (i.e. children unable to acquire skills needed for full employment in adulthood) were found to be high particularly among the women-headed households and homes where older sibling caregivers missed school.

Most poor households live on the cutting edge of poverty, depend on a cash economy and pay more for illegally accessing basic services that are practically free in villages (UNCHS, 1996)

or subsidised for the rich. Higher expenditures are incurred on rental/building shelter, procuring water (where not provided free by the municipal government), use of community toilets /sanitation services, transport to and from work, health and education services.

Vulnerability of the poor also stemmed from their lack of empowerment and choice. Poor are generally denied the right to choose and their needs are rarely built into city action plans. They lack skills to dialogue with the government or organise collectively to bargain with local authorities and all self-help mechanisms are deemed illegal. Poverty as a denial of choices /opportunities is reflected in a shortened life, exclusion and lack of assets and freedom / dignity (World Bank, 2001).

Government Policies and Approach to Slum Development

According to Khosla (2002)[14] up until the mid-seventies, urban poverty had remained a non-issue with a Government biased towards the rural sector. First references to urban poor were noted in the Fourth Five Year Plan, roughly coinciding with the spurt in squatter settlements in cities. Subsequent Plans formulated strategies and programs for urban poverty reduction by blending macro economic interventions with improved access to basic minimum services and shelter.

The Government of India, in the early nineties, initiated comprehensive programs for urban poverty reduction. Every Plan made an attempt to improve upon the previous program. The first set of Urban Community Development pilot projects were rolled out in the early 1990s. These were scaled up to create the all-inclusive Urban Basic Services for the Poor Program that was buttressed by the Environmental Improvement of Urban Slums (EIUS) scheme designed for slum improvement. The two programs eventually paved the way for three national level schemes launched in the late 1990s: SJSRY or the Swaran Jayanti Shahari Rozgaar Yojna to promote access to livelihoods, NSDP or the National Slum development Program focused on provision of minimum basic services into slums and VAMBAY or the Valmiki Ambedkar Malin Bastee Avas Yojna for provision of low cost housing and sanitation facilities to the poor.

At the same time, the Government of India attempted to develop a policy on slums (1998) to guide state/ city approaches to slum development. The Policy itself has stayed in the draft form and its most significant contribution, a definition of slums (spelt out above), has been largely

Fig 1

[14] Khosla, R. Community Women Leaders in the Urban Basic Services for the Poor Programme: an Empirical Study, Ph.D Dissertation, 2003

ignored. Local governments have therefore pursued different agendas for slum development depending upon the predominant political predilection and the strategies have varied from ignoring, annihilation, relocation and resettlement to the more sympathetic onsite upgrading. Even as slum dwellers keep the wheels of cities turning by their work in the informal albeit a crucial economic sector, policy failure weakens the capacity of governments to improve housing and living conditions of low-income groups.

Formation of Slums

Slums are often the first stopping points for poor migrants that provide low-cost affordable housing in the absence of concerted effort by government agencies to create housing for the poor. Their meager savings are used to build rudimentary shelters for themselves in vacant areas.

Slum formation has also been closely linked to national economic cycles, trends in national income distribution and national economic development policies. The case study of Bargi Dam is a case in point.

Infrastructure Investments Push up Migration and Slum Growth[15]

Construction of Bargi dam on Narmada River in Madhya Pradesh affected 162 villages and 7000 families. Immediate impact of resettlement was on land prices that escalated sharply, loss of cattle based livelihood, dissipation of social capital, increase in psychological stress, inadequacy of civic amenities and rise in health problems.

Under the resettlement and rehabilitation plan five model villages were developed with buildings for primary schools, Primary Health Centres, Veterinary hospitals and co-operative societies. Compensation of five acres of agricultural land promised by the government did not come through, putting people out of livelihoods and forcing over 50 percent of families in one cluster to migrate to the city in search of employment. Some tried to earn a living tilling forest land but were prevented by the Forest Department.

Eventually most displaced families ended up in the slums of Jabalpur, pulling rickshaws or working as construction labour. Here the government treated them as encroachers denying them basic services. Sooner or later plans to relocate them would be discussed and the family faced with a second displacement in the name of development.

Foot printing History of Slum Resettlement

The Hazards Centre in their report on Delhi *Kiski Hai*, dated November 2003, has itemized the story of resettlement in India. Resettlement first began during the partition of 1947-48 when large inflows of refugees from Pakistan necessitated the establishment of a Ministry of Rehabilitation with the primary purpose of acquiring land to settle the displaced population and provide infrastructure and financial support to for the process to happen as efficiently as possible. The growing city required construction labor and attracted additional migrant construction workers to it. These workers settled on the vacant lands in slum like environments, leading to the development of the Slum Areas (Clearance and Improvement) Act of 1956, to address issues of housing for migrant families in slums. These families were eligible for 80 square yard plots with attached toilets on a hire/purchase basis as per provisions in the Second Five-Year Plan. In the Third Five-Year Plan period, that coincided with the first Master Plan of Delhi 1962, massive land acquisition began under the Delhi Development Authority (DDA). Paradoxically, even as more land was being obtained, toilets were eliminated from the plots

Fig 1

[15] http://www.narmada.org/nvdp.dams/bargi/bargi.html

with leaseholders granted right to access individual toilet facilities. The Fourth Five-Year Plan focused its attention to beautifying the city rather than ensuring slums get basic services. The Fifth Five Year Plan reverted to the relocation policy and relocated 900,000 people into resettlement colonies with reduced plot sizes, and sites and services facilities provided on a shared basis under a hire/purchase regime. Despite the emergence of self-help housing schemes in the Sixth Five-year Plan period, plot sizes shrunk further to 12.5 square yards and tenure was converted into leasehold. The Seventh and Eighth Five-year Plans persisted with the policy of relocation and while the Ninth Plan is committed to regularization for all sub-standard settlements with ownership rights, demolitions continue unabated in practice.

History of Urban Settlement and Relocation in Delhi: Report of the fact-finding mission [16]

The history of evictions and resettlement in Delhi can be traced to the colonial period when British declared Delhi their imperial city in 1912. The establishment of the imperial city necessitated the evictions of those who occupied areas intended for British settlement. Justification for this eviction included the pronouncement that areas occupied by indigenous population were slums and therefore unfit for human habitation. The inner Ring Road was constructed in 1940s to resettle and confine "unwanted segments" of Delhi's population to a specific geographical location with economic incentives and structural supports for the evicted.

The next phase of evictions began in the 1960s post partition, when prolific development of the city raised a demand for construction and labor services that led to the formation of new "slums." The government undertook a process of resettling these slums and was responsible for what effectively constituted a population transfer. It allocated 5% of the city's land for what it deemed "service class" or the "economically weaker classes" (EWCs) of the society. The EWCs comprised primarily slum inhabitants and, in 1960, numbered approximately 4.4% of the total Delhi population.

By 1970, city's population had increased to five million, but the EWC had grown disproportionately to 25% of the population. In that phase of evictions, according to official figures, 750,000 people were moved out of the city. However, the unofficial figures estimate them at around 900,000. The Delhi State's refusal and/or inability to allocate a corresponding amount of land to its 'service class' resulted in its decision to resettle as much of this segment of the society as possible in major industrial areas developed in the 1960s along the western, eastern and southern trunk routes.

In sharp contrast to the resettlement policy in the late 1940s and 1950s Delhi State provided absolutely no structural or economic support to those evicted in the 1970s. As a result, within less than ten years, many of those who had been resettled had migrated back into the city in search of employment. A prime reason for the return was because the "service class"

Fig 1

[16] Hazards Centre Based on an oral presentation by Dunu Roy of Hazard Centre and Sajha Manch, November 2000, edited for purpose of this report

did not have the skills to match the demands of these industries and the industries did not/could not invest in requisite human resource development. Fresh migrants from outside Delhi came in to take up the skilled industrial jobs, belying the whole premise for the resettlement of the EWC citizens from central Delhi. The relocation, therefore, was in no way remedial and, in fact, ultimately provided the impetus for the growth of subsequent slum colonies within the confines of the city.

Residents of Delhi's original resettlement sites form the upper-middle classes of Delhi today, indicating that rehabilitation is indeed feasible with appropriate economic incentives and structural support from the state. Also clear from the subsequent resettlements is that relocation does not preclude evolution of slum communities in the inner city. This is despite the Delhi Government's long-standing practice of resettlement.

Rights of Slum Dwellers

Resettlement is primarily a question of Human Rights, in particular the Right to Shelter.

The UN accepted the Right to Adequate Housing as a human right in 1948 with its Universal Declaration of Human Rights, recognizing it as the most basic human need essential for the economic and social development of human beings. Subsequently several covenants embraced this within their Rights framework. Most recently the United Nations Millennium Declaration Target 11 Goal 7 accepted this as an important means for eliminating poverty across the World. In order to realize the right, a joint United Nations Housing Rights Program (UNHRP) was designed with five focus areas: analysis of housing issues, advocacy, outreach and implementation, monitoring progress and capacity-building for implementation of housing rights.

Millennium Development Goal 7: Ensure environmental sustainability

Target 11: Improve the lives of at least 100 million slum dwellers by 2020.

- Slums are physical manifestation of poverty, inequality and social exclusion in urban areas.
- Slum dwellers live in neglected parts of towns and cities where housing and living conditions are appallingly deprived and often hazardous, and where basic services are lacking. Slum dwellers are not valued as members of the urban community and have few rights. In many areas they live under the constant threat of eviction.
- Slums are a development issue that has to be faced.
- Lives of at least 100 million slum dwellers need to be improved while helping cities to grow without new slums.
- Secure tenure is one of the most essential elements of shelter. Insecure tenure inhibits investment in housing, distorts land and services prices, reinforces poverty and social exclusion, causes severe stress and illness (through eviction/threat of eviction) and has the biggest impact on women and children.

India has ratified several international instruments making it obligatory for the state to realize the right to adequate housing progressively for all its citizens. It has made specific domestic commitments in its constitutional provisions, laws, and policies to ensure the realization of the right to housing.

International obligations ratified by Government of India to ensure the Right to Housing include

- The Convention for the Elimination of All Forms of Discrimination against Women (CEDAW), Article 14(2)(h) that states that "all women enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications".
- The Convention on the Rights of the Child (CRC), Article 27(3) that states that "all material assistance and support programs with regard to nutrition, clothing and housing must be provided."
- The International Convention on the Elimination of All Forms of Racial Discrimination (CERD), Article 5, that undertakes to prohibit and to eliminate racial discrimination in all its forms and to guarantee the right of everyone, without distinction as to race, color, or national or ethnic origin, to equality before the law, notably in the enjoyment of the right to own property alone as well as in association with others and the right to housing.
- The International Convention on Economic, Social and Cultural Rights (ICESCR) Article 11(1), that recognizes the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing and to the continuous improvement of living conditions.

ICESCR has set out minimum core obligations that States must fulfill in realization of the Right to Adequate Housing;

1. *Legal Security of Tenure* as protection against forced eviction and harassment;
2. *Availability of services, materials, facilities and infrastructure* essential to health, security comfort and nutrition, inclusive of safe drinking water, sanitation and washing facilities, and energy for cooking, heating and lighting;
3. *Affordability*; with expenditures for housing commensurating with income levels;
4. *Habitability: or* adequate space and protection from the elements with conditions conducive to disease and structural hazards eliminated;
5. *Accessibility* with all accessing adequate housing;
6. *Location a*dequate housing must allow for access to employment options (the right to livelihood), healthcare, schools and other social services.

Besides these global instrumentalities that make it binding on the Government of India to provide shelter to the people, its domestic obligations are enshrined in its Constitution and justice system:

- Article 21 *Constitution of India* that states that, "No person shall be deprived of his life or personal liberty except according to procedure established by law".
- The Supreme Court of India that held that the Right to Shelter or adequate housing as a fundamental human right secured only when an individual is assured of all facilities to develop himself /herself and is freed from restrictions which inhibit his /her growth.

The Supreme Court also ruled that the Right to life guaranteed in any civilized society implies the right to food, water, decent environment, education, medical care and shelter and that Article 21 of the Constitution encompassed the right to livelihood which was indivisible from the right to shelter[17]:

Eviction of petitioners from their dwellings according to Hazards Center should be seen as a violation of the right to livelihood and thus shelter.

Approaches to Slum Development

Response of national and city governments to the growing phenomenon of slums has been mixed but typical; ignore, eradicate or relocate. These responses have originated out of a lack of understanding about the key driver in slum growth i.e. a dysfunctional housing market and poor knowledge of the significant economic contribution of slum dwellers.

The UN Habitat Report on Slums (2003) has examined the effectiveness of the many policy approaches to slums and housing for the urban poor used by different local governments during the recent decades[18]. Some according to the review, continued to be practiced despite data that proves their ineffectiveness. Approaches adopted in India are also discussed in parallel.

Neglect and Eviction

According to Cities Alliance, simple negligence – ignoring the existence of slums –was the most common approach in most developing countries until the early 1970s. It was based on the faulty premise that slums were an unavoidable but temporary phenomenon (due to accelerated

Fig 1

[17] Hazards Centre: In *Olga Tellis v. Bombay Municipal Corp*. (1985) 3 SCC 545, the Supreme Court

[18] UN-HABITAT: ***The Challenge of Slums: Global Report on Human Settlements 2003,***

migration from rural areas) that would be overcome by the trickle down effect of macro economic growth.

The Planning Commission also largely ignored slum reality in India until the Seventh Five Year Plan. As a result, slums were neither counted nor located on city master plans. On city land-use maps slums were seen as blank spots of undeveloped land. A typical example was the large number of slum clusters along the River Yamuna in Delhi which had until the resettlement been home to large numbers of poor households.

By mid 1980's, when this policy of disregard proved ineffective (slums continued to develop, densify and degrade), central governments promoted the policy of eviction backed by a weak local government. An unorganized "slum society" had little legal protection against harassment, pressure, selective or mass evictions of the people who lived in slums says the Habitat Report. Evictions were usually rationalized on the grounds that the space was required for urban renewal and infrastructure projects, or for health, sanitary and security reasons. The highest pressure was on the removal of inner-city slums on prime locations. This eviction approach continues to be used today[19] despite the emergence of better policy approaches in response to new realities.

Upgrading

Some cities opted for the upgrading approach i.e. rejuvenating the existing community with minimum disruption and loss of physical and social assets (DFID, 2000)[20]. Typically, slum upgrading provides security from eviction (regularization of land tenure/rights) and improves existing infrastructure, e.g. water reticulation, sanitation, limited sewerage, garbage collection, storm drainage, lighting, street paving, up to an appropriate, basic standard. Usually upgrading excludes home construction, since residents can do this themselves, but instead sometimes, offers optional loans for home improvements[21]. Occasionally, the policy helps build new housing (vertical as in Mumbai) on the same site which while not increasing housing stock in real terms, certainly reduces ground-level space for low-income families to operate their small businesses.

Slum upgrading often combines the use of labor and resources of slum dwellers in ways that seek to involve communities with slum improvement. Upgrading according to researchers has

Fig 1

[19] In January 05, large number of slums in Mumbai were demolished by the newly installed state government.
[20] DFID. URBAN NOTES, Number 2 May 2000, **Upgrading Experiences**
[21] CLIFF is a lending facility that has been set up to support financing for shelter upgrading for slum dwellers.

significant advantages**:** it is affordable and costs ten times less than relocation besides minimizing the disturbance to the social and economic life of the community. According to DFID (2000), well-done upgrading can strengthen community's voice and ability to transform its conditions.

India has had several experiences with successful upgrading albeit these have yet to go to scale. Upgrading with tenure rights motivated occupants to invest two to four times the amount of funds government invests in infrastructure improvements in the Ahmedabad Parivartan Project and the Indore Slum Networking Program.

In an estimate made by DFID, for every one-dollar of infrastructure invested in upgrading about seven dollars are invested by residents in home improvements and small business expansion. In the Parivartan project Ahmedabad, the shift from community level water supply to individual level water supply has resulted in 89 percent of households with access to individual piped water supply, a reduction in time spent for water collection from two hours a day to less than one hour freeing women from the drudgery of water collection, and increased levels of satisfaction with the quality of supply. A similar shift from community toilet blocks and no service[22] to individual toilets connected to sewerage network has dramatically reduced incidence of open defecation among children and adults. Connection to underground drainage system, proper system for municipal waste collection and pucca cemented roads has reduced incidence of flooding and water logging with cleaner environment that have reduced proliferation of disease Over 80% households report significant decreases in health expenditure and loss of work days due to illness (Shukla) [23].

The most significant achievement of Parivartan initiative was reported in community investments towards shelter consolidation. Over one third household's had undertaken home improvements spending between Rs.500 to Rs.300000 (average Rs31086) on home improvements. These include addition of an extra floor, subdivision of rooms, improvements in roof, floor and walls. While 45 percent of households used personal savings for this, others accessed loans[24] for the same. 58 percent households following the initiative reported increased incomes. Besides, there has been an increase in property values in slums by nearly

Fig 1

[22] Of the households surveyed in Parivartan slums; prior to the initiative 9 % were using community toilets and 62 percent were resorting to open defecation in the absence of any facilities. Only

[23] Shukla, S. Ensuring Access of Urban Poor Communities to Basic Services:The Case Of Parivartan, Ahmedabad, WSP, 2005.

[24] Sources of loans are Relatives, employers, money-lenders and Banks.

70% (from Rs. 55,899 to Rs. 93,788) due to the improvements in physical infrastructure provision and subsequent improvements made in the housing.

Innovation in Land Tenure for Slum Dwellers: Community Land Trust Project; Tanzania-Bodeni Settlement in Kenya

The ***Community Land Trust Project*** (CLT) sought to empower poor urban communities in slums and squatter areas in Tanzania-Bondeni Village using an innovative land tenure model to enhance security of tenure.

Typically, Tanzania-Bodeni had informal settlements on Government, Railway and private land. Fearing eviction, residents had built homes of mud and wattle. Deficient water supply and sanitation services in the area had created poor environmental conditions with high health costs. Drainage channels that discharged factory waste into the river and ran across the settlements invariably flooded over during heavy rains.

Upgrading Tanzania-Bodeni settlement was based on two major principles; improvement of the physical environment based on identified needs and ensuring beneficiary contribution for improvement and land tenure. Land tenure was expected to improve access of poor to land markets by putting land into the hands of the community, with individual members owning improvements on plots. Residents could inherit and bequeath shelters but sale of only development and not the land was permitted. Community was organized into a legally recognized entity with its own constitution and rules, registered as "Tanzania-Bodeni Settlement Society" and a Trust Deed on management of community land was executed. Partnership with the private sector helped community access resources for roads, credit for land, etc. while simultaneously lowering cost of infrastructure improvements for individual members.

Project has led to considerable improvements in health and sanitation with better water supply and basic infrastructure. Tenure security has encouraged self-investment in homes and private toilet construction. Strong social capital of house owners and tenants exists and legal documentation of the project allows for easy replication.

However where upgrading solutions were carried out in isolation, focused purely on construction, where governments did not follow through with services (as in the new generation of resettled sites in Delhi), or where communities were not included in the planning and maintenance of the facilities, the governance structures disappear once key drivers of change are gone[25]. Overall environmental conditions in such upgraded settlements according to DFID (2000) /Cities Alliance, continue to remain substandard, with dysfunctional standpipes, contamination of water sources due to sanitation leakages into water supply, uncollected waste, poor maintenance and utilization of community toilets.

In the late 1980s, the UN-HABITAT's Global Strategy for Shelter planned upgrading through self-help by increasing the efficiency of decision-making and mobilizing people's resources for the interventions. Government's were seen as enablers for removal of bureaucratic obstacles, provision of plans and advice, and facilitators of the process to promote local initiatives. The strategy endorsed private sector participation for slum upgrading. However, says the Cities Alliance Report, this promising strategy was never really implemented because of its relatively slow pace of implementation and dependence on the cooperation, goodwill and resources of residents, as well governments and other stakeholders. Upgrading through self-help concluded the report, functioned only where formal government institutions were unable to cope.[26] It was also recognized that for communities to take rational and responsible decisions, support was needed in the form of training, organizational assistance, financial help, and managerial advice.

Upgrading for a Healthier Environment: The Guarapiranga River Basin Environmental Sanitation Project

Since the 1970s, urban São Paolo had grown rapidly. In particular, the squatter settlements (*favelas*) without basic sanitation and infrastructure had expanded and encroached on the Guarapiranga River Basin reservoir. In the absence of a proper sanitation system, solid waste began to block the natural drainage system and the liquid wastes drained into and polluted the reservoir water, seriously compromising the quality of water in the city. A clean up programme began with the support of the World Bank in 1993 that was expected to improve lives of 100,000 inhabitants. Funds from the project were used to construct an on

Fig 1

[25] In Delhi, Narela, the first of the second-generation resettlement sites (1999) was closely monitored by the then Minister of Urban Development, Mr. Jagmohan. However, following a change in leadership, the support structures were gradually withdrawn.

[26] Slums: Past, Present and Future: *the Critical Role of Policy*

site sewage network that connected all housing units, paving of main pathways to allow movement of garbage collection trucks, soil consolidation works to reduce geo-technical risks etc. By keeping people within the same neighborhood the project upheld the social capital of the slum community with impressive results.

Relocation and Resettlement

The policy of elimination over the years has been replaced by a seemingly more sympathetic strategy of relocation. However, since resettlement is usually at the city's edge, away from informal income opportunities close to people's residences, it has added to rather than mitigated poverty conditions. Resources spent on resettlement by local governments (for land procurement and services on sites) are further stretched to finance public transportation to facilitate access to employment, schools and health services, police posts, etc.

Participatory Slum Improvement[27]

Sustainable examples of participatory slum upgrading programmes

- **Orangi Pilot Project, Karachi**. Residents constructed sewers to 72,000 dwellings between 1980-1992, contributing over US$2 million of their own resources. The Project also includes basic health, family planning, education and empowerment components.
- **Integrated programs of social inclusion in Santo André municipality, São Paulo** have improved living conditions of 16,000 *favela* inhabitants through community partnerships.
- Self-help partnership projects in Alexandria, Egypt, are being integrated, scaled-up and replicated.
- The Urban Poor Community Development Revolving Fund in Thailand, which provides low interest loans for community development in poor areas.
- Partnerships for slum upgrading in Dakar, Senegal, which have improved lives of more than 1 million inhabitants over the last five years.
- The Holistic Upgrading Program in Medellin, Colombia, which has addressed the needs of 55,000 slum dwellers during its first phase.

Project successes notwithstanding, housing conditions have not improved significantly, except in countries with high economic growth rates. In most cities, number of slum dwellers remains constant or is increasing, except where large-scale slum upgrading and tenure regularization programs have been combined with low-cost housing options.

Continuing expansion of cities has created waves of evictions/resettlements. Even as new settlements are created outside the municipal boundaries, the process has served to overcrowd settlements within cities. In a recent study done by CURE for the Delhi Jal Board (2004), resettlement of neighboring clusters were found to have led to a massive spurt in population of the remaining clusters in the region, jumping from 700 to over 3000 households[28].

Resettlement, according to Cities Alliance is prompted by the desire to improve the use of the land and property on which slums are located. It is little better than forced eviction and happens without compensation or consideration of the social and economic consequences of moving people to distant sites without access to urban infrastructure, services or transport.

For resettlement to be successful, the report infers that it must be undertaken with the agreement and cooperation of slum households. Participatory slum improvement is today accepted as the best practice for housing intervention in developing countries. Such initiatives have however, been adopted on a limited scale and comprise demonstration projects that adopt holistic approaches to neighborhood improvement and embrace health, education, housing, livelihood and gender issues in the process of development. While the government facilitates and fast tracks procedures and maintains financial and norm accountability, the communities are involved from the outset through a formalized process and implement the projects.

Resettlement And Rehabilitation Of The Urban Poor: The Story Of Kanjur Marg[29]

Nearly 25000 families that had lived for over two decades along three suburban rail lines in Mumbai, in huts often just a meter away from tracks were resettled in partnership with the civil society. Living along the railway tracks was dangerous for the slum dwellers. Number of accidents involving children had been reported. For the railway authorities, these hutments meant additional expenditures due to reduced efficiency of the train services (speeds down to 15 kilometers per hour, overall daily trips reduced by 40 percent) and for the city, it was lowered productivity.

The Kanjur Marg project aimed at creating a win-win situation for the people and the railway authorities by resettlement and rehabilitation of 900 slum families to facilitate the laying of new tracks. A Task Force Sub Committee with representation from the National Slum Dwellers Federation (NSDF) helped to identify alternate site for temporary housing close by. The Mumbai Municipal Corporation was expected to provide the infrastructure; Indian Railways, the finance and an NGO-SPARC, inputs for community mobilization and participatory planning and land development. The Special Purpose Vehicle (SPV), the Slum Rehabilitation Authority (SRA) channeled the resources. Facilitated by SPARC and the NSDF, slum-dwellers organized into 27 housing cooperative societies and moved voluntarily to the new site. They were closely involved in taking decisions such as size of houses, credit needs etc.

Influence of Court Judgments on Slum Development Approaches in India

Slum development strategy in India has been subject to judicial activism. A Delhi High court judgment (19xx) successfully capped the rehabilitation program in the State by pronouncing that: "Governments bear substantial costs of slum rehabilitation, which (the latter) is illegal as it amounts to buying back the encroached public land from Jhuggi dwellers. First the land is acquired using public money making farmers landless. The acquisition cost of the required 7500 acres to resettle Delhi slums would be about Rs1725crores. Further development would cost Rs4200crores, all coming out of taxpayer's money. The rate at which land is being acquired for jhuggi rehabilitation, it would take 272 years to relocate all of them".

On November 17, 2000 the Supreme Court also ordered the shutting down of all polluting industries of whatever category operating in residential areas of Delhi. This order affected one

and half million workers in the city, large share of whom were poor, either employed directly or providing indirect services to these industries. Shifting of small industries to conforming areas while distancing them from 'homes' is also likely to rob these industries of their competitive edge, rendering them sick and thousands jobless.

Government "disincentives" notwithstanding (besides closure of industries in the guise of pollution control these also include withdrawal and/or restrictions of licenses to petty traders and imposition of additional taxes, privatization of essential services like water and electricity and implementation of user fees that prohibit access by the poor), migration back to the city in search of economic opportunity according to Roy, remains a reality.

Consequences of Displacement: Review of Case Studies

Except for on site upgrading, all other approaches to slum development have high costs. As per an estimate made by the UN Habitat, slum clearance may cost 15 times more than upgrading by destroying communities and social capital, besides having high political and social costs. Besides, slummy environments of slums located in congested/unhygienic areas add to huge health costs both for the poor and the city.

In Guarapiranga project in São Paolo, cost of upgrading at $1000 per family was much lower than the $30,000 per family cost of conventional public housing resettlement programs. Bundling the package of services (water, sewerage, sanitation roads), interventions proved more efficient than when provided piecemeal. Besides lowering costs, project such as these, through their advocacy program, enable slum dwellers to preserve and add to the investments.

Creating Voice: The Andhra Pradesh Urban Services for the Poor Project

The Government of Andhra Pradesh with the support of DFID has initiated an urban poverty reduction program in 32 medium sized cities[30] in the State rooted in the principles of municipal reform, inclusion and sustainable improvements in planning, finance and management.

Under serviced areas of all towns were expected to be improved through provision of water supply, sanitation, solid waste management, drainage, street lighting and roads. Poor residents are engaged in a process of Municipal Action Planning (MAPP) that provides slum

residents with an effective mechanism of expressing their needs and municipalities with a way of incorporating these into plans and budgets. Such engagement mainstreams poor in the process of planning and monitoring municipal services. The approach has successfully allowed local authorities to focus beyond infrastructure and spatial issues in slum development.

In spite of the fact that urban poor are seen as the largest producers of shelter by investing enormous resources in a variety of contexts to tackle their housing and infrastructure problems, displacements and evictions continue to happen. Most occur under the pretext of infrastructure development and environment improvement where governments invariably fail to assess the social, environmental and economic consequences of the displacements.

Unsuccessful Relocation at the Periphery in Brasilia

In Brazil, the approach to low-income housing has been both centralized and controlling, with participation of people limited to an endorsement of actions imposed upon them. Slum development policies have vacillated between clearance and relocation with strong emphasis on peripheral development. Satellite towns of Taguatinga and Gama, 30 kms away were developed to house evictees and served as dormitories for the city's low-income populations. Even though recently developed, overall physical condition of the new settlements, both in the quality of dwellings and services, remained much the same as in the original sites. Most streets were unpaved and without public lighting. Settlements came to be regarded as the 'official favelas'.

Peripheral development, besides fostering uneven distribution of urban amenities, also restricted access to income-generating activities, deepening of poverty levels among the residents.

The project neither solved the housing deficit nor alleviated poverty by providing secure tenure as resettlement was de-linked from employment/income generating opportunities, community development program and access to transportation between the workplace and the household.

According to Dunnu Roy (2000), the process of eviction and resettlement in Delhi today appears to be foot printing the pattern of the1970s, when the state had abdicated its responsibility to the economically weakest or un-propertied segments of the population. A study of the resettlement sites of Bhalaswa and Narela in Delhi made by Sajha Manch within the framework of Human Rights indicated that this resettlement program of the Municipal Corporation of Delhi did not conform with domestic and international legal standards on the right to adequate housing. The MCD Resettlement sites lacked potable water, toilet facilities and access to transportation. Sanjha Manch concluded that "poor residents cannot cope with life in new rehabilitation sites for long, as they are unable to survive without employment and basic services and resettlement programs do not decrease poverty and squalor, and that eventually ownership of resettlement homes gets transferred to property dealers who then sell it thereby serving the interest of the land speculators"[31]. According to Sajha Manch findings this degradation of living conditions by design could be contained if the poor and working populations were allotted space for social housing within one kilometer of their work area as a design of official Delhi Master Plan. The findings also indicated that Delhi has enough land to promote this concept, if it has the commensurate political will to carry out the required land reforms in favor of the dispossessed.

The Economics of Slum Clearance

According to Mitra (2003)[32] no known survey has been conducted to assess the magnitude of informal property in India. Driblets of information suggest that a large amount of land, residential and business property is informally/illegally held; 15 to 25 percent tenancies in the country are illegal and concealed (Deshpande); estimates of illegal encroachment upon private and public land run into thousands of acres across the country (Agrawal, 2002). According to Mitra, reliable estimates indicate that the average equity lost when a hut is bulldozed is 1100 dollars (55, 000 rupees). If in a year ten thousand huts are bulldozed a total of 55 crores in equity is destroyed in the city of Bombay alone. In Delhi around 30% (a conservative estimate) of the population have only informal rights over the land that they inhabit, suggesting that slum clearance could cost the city huge amounts.[33] Forcible discontinuation of informal business continues Mitra, will result in growing unemployment. Some informal sector activity (such as rickshaw pulling) may not result in a decrease in the overall size of the urban informal sector, except that the displaced workers will turn to low productivity occupations within the city and since the earnings from the informal sector are remitted to the rural sector (remittances from informal sector amounting to around 20% of their incomes and used for agricultural improvements, rural improvements and consumption) the amount of remittances made will

decrease as the informal wage decreases. Mitra recommends the formalization of property rights to enable people to enter the formal production sector, which has distinct advantages in terms of consumer and credit base and reduced levels of corruption.

Dhaka[34]

Dhaka, Bangladesh attracts large numbers of rural migrants (60%) who generally squat on government or private vacant lands in the city, or along rail tracks, roads, street sides, parks etc. in temporary shelters. In just over a decade since 1990, the city's squatter population trebled from 1 to 3million and from 2156 clusters to 3700 clusters. Nearly 55% of all households in the city live in absolute poverty and 31.9% are core poor.

Slums in Dhaka are highly dense, lack basic services, and are unhygienic and environmentally degraded. Slum dwellers have a low literacy rate, high incidence of illness, high levels of unemployment and crime and a weak social capital. They mainly provide informal labor in the garment industry or small business market, or work as rickshaw pullers, street vendors, construction workers, etc. earning low wages in insecure and unsustainable livelihoods. Being on non-tenured lands, they are challenged by the threat of eviction. As a result, they hesitate to invest in housing or basic service. According to guesstimates slums occupy 1038 acres of city land and slum owners contribution to the city economy is nearly US$ 22,400,000.

Slums have occasionally been demolished to provide for infrastructure and road development. An estimated 200,000 people affected and property worth US $2.5 million was destroyed in 30 major evictions between 1990-92. These households were resettled at the city fringes, however most returned after only a couple of months due to lack of employment opportunities and transport links to the city. Based on an analysis of this, it was concluded that upgrading and not eviction is the answer and slums can be upgraded at half the cost of relocation and eviction". Reason for lack of success of resettlement was attributed to the need for poor families to be close to employment markets. On the other hand serious efforts needed to be made to intervene in the land and employment market and to evolve a comprehensive land policy that allows land ownership to slum dwellers for self-upgrading.

Displaced to build City Roads, Mumbai[35]

Large-scale slum demolitions happened in Mumbai in the1970's despite the presence of Maharastra Slum Area Act 1971, to provide space for infrastructure projects such as construction of link roads, airport or railway terminals etc. Households were relocated to lands outside the city limits making it impossible for them to earn a living (Committee for Right to Housing CRH, Mumbai).

In the northeastern suburb of Jogeshwari, 769 families faced homelessness due to the proposed Jogeshwari–Vikhroli link road. Under the Prime Minister's Grant Project (PMGP) the families were offered only Rs162.25 per month as compensatory rental. Families had to top this amount from their own resources of less than Rs1000, plus bear the additional costs of transport to access livelihoods. Overall, this led to a 25 percent rise in household monthly expenses. The fixed compensation of Rs2500 for building the shelter in no way compensated for structures demolished, where people had invested nearly Rs99000. CRH noted that no consultations were held with residents who lacked information and choice over alternate housing arrangements.

Informal Economy and Slums

The Indian National Accounts Statistics (NAS) defines the unorganised segment of the economy as all operating units whose activities are not regulated under any statutory Act or legal provision and/or those which do not maintain any regular accounts. Sociologist Jan Breman has defined informal sector work as work on one's own account, which generates income but is not regulated by an explicit employment contract and enjoys no protection. This includes people who work in the street, in homes, small-scale enterprises, power loom workshops etc. He further describes the informal sector workers as those who work for as long as their employers require them to. Sometimes, these workers may be working in the context of a secure, organised workplace but their relationship is contractual and therefore classified as informal. According to him, the move from formality to informality in the work context almost immediately means a fall in the standard of living.

The term informal economy was coined by the social anthropologist Keith Hart in 1971 while explaining the survival economy of poor in Africa, whose individual economic transactions did not rise to taxable limits and who occupied a gray zone of commercial exchange, mainly by offering their labor, which allowed mainstream (and audited) economic practice to subsidize itself through their relationship with them. The entrepreneurs found informal economic

transactions very profitable as these kept labor costs low and allowed corrupt municipalities to exploit physical space for commercial gain rather than for the welfare of the poor. Informal sector itself becomes a major employer.

According to Shastri[36] and Jhabvala, more than 60 percent of the Indian national income is generated in the unorganized segment. In the Year 1999-2000, total contribution to employment by the organized sector was only 8 percent of which private sector contribution was just 2.5 percent, the balance coming from the unorganized sector.

The urban informal sector according to Dhar Chakrabarti[37] has grown rapidly and in two ways; a. the relative impoverishment of the urban economy has offered a large space for the informal sector and b. the cheap labour market has encouraged the growth of processing and service industry in the household and tiny sector. This has led to a two-fold impact. Imperfections in the land and housing markets have pushed the poor to seek informal solutions to their housing needs in slums at the same time the industrial and service centers, sometimes employing hazardous means, have come up in residential neighborhoods in violation of rules and regulations leading to a complex pattern of urban form in which the 'informal' and the 'illegal' have developed an intricate and organic relationship with the 'formal' and the 'legal' system.

Slums play an important role in building the city economy, in particular through their work in the informal sector, which is a vibrant support to the city economic system. Lower-income classes are mainly visible in slum neighborhoods as domestic servants, street vendors, repair and odd-job men, cleaners, day or night guards. Any disruption in the informal sector has implications on the city and it's functioning. However, the Economic Census rarely captures the contribution of the informal sector. In turn, the strain that informal employment places on the poor households ensures the proliferation of slums.

Several studies have noted that a majority of urban poor are self-employed or work as temporary/ casual labourers in unskilled/ semi skilled occupations such as domestic work, sweeping, hawking, small trading, roadside entertainment, etc. (Mahtani, 1981; Public Affairs Centre, 1998). A third of all small traders are women engaged in selling vegetables, etc. (SPARC, 1985). Household incomes of slum families ranged between Rs.100-1443 with 40 percent workers drawing less than minimum city wage in Jaipur (ASTHA, 1996). At least one member per family worked, although more needed to work due to low earning capacity of the main earner (Mahatani, 1981, YUVA, 1996). One in every five woman was employed primarily

in the informal sector (Singh and Kishore, 1993). Trends indicated that as households became poorer, a common response was for women to join the labour force (Moser, 1998).

Bhowmick and More have classified informal employment as two types: casual or contract labor and self-employment. Both provide low and irregular income, lack of social security, little regulation in work, and absence of legal protection. Types of work include hawking and street vending, providing services and home-based work. According to Breman, informal sector realities are closely linked to the existence of slums and the living conditions inside. His study of the informal labor in Ahmedabad concluded that majority lived in the slums in tin shed houses (55%), without water connections (80%) or private toilets (93%). He concluded that the quality of work and livelihoods in the city is mostly ruled by the uncertainties of the informal economy and the strain that it puts on the income of the worker translates itself into an inability to invest in housing. This ultimately manifests itself in the rise of slums, which become cost-effective for a worker in an uncertain work situation. Since the organized housing industry is dominated largely by commercial interests the prices of land remain heated and out of reach of the poor, and ensure large populations get resigned to living in abysmal conditions.

Informal Economy and Gender

The informal sector employment denied poor, mostly women, protection under labour laws. Without savings or safety nets they were easily shocked into poverty in case of health emergencies, rituals/marriages, natural disasters, asset loss etc., borrowing money at high interest rates from informal financial intermediaries (Noponen, 1991). With their low incomes they found it harder to save and create assets to reduce their vulnerabilities. The invisible unorganized sector according to Jhabvala (2001) is composed mostly of women[38].

Women and children, especially girls are deeply influenced by economic shocks due to disparities in incomes, resources, services and attitudes (UNCHS, 1996) and their lack of control over these factors as also because of their larger share in the informal sector. Bargaining power of individuals determined their share of resources at the household, city and national levels. Women and children, with weak voices and traditional role stereotypes were generally unable to access their share of family resources. Women being largely uneducated /unskilled normally engaged in low-paid, low-end, insecure, informal economic activities. Their wages were lower than men's for the same amount of work and they were denied social security, leave wages, maternity benefits etc. (Jhabvala, 1999). Their income earning activities were not exclusive of their household responsibilities that included all domestic tasks and child-

care without access to appropriate technology /services that could make them more efficient. After discharging their responsibilities they had little time left for community organisation. Inappropriate timings, location of jobs far from homes, unfriendly public transport systems, low credit worthiness kept poor women in poverty. They invariably absorbed household economic shocks by increasing time for income earning activities without any lessening of the domestic burden, cutting back on food share, and ignoring their health needs (Kishwar and Vanita, 1996).

Informal Economy of Mumbai and Delhi

Delhi and Mumbai's migrant population is largely engaged in the informal sector. The scale, diversity, flexibility, decentralization, competitiveness, capacity to absorb large manpower of the informal sector and the support it offers to the formal sector, both in the trading and manufacturing activities, has been responsible for high GDP's of the two cities (Chakrabarti, 2001). The bulk of the population is employed in the informal economy, which contributes more than 50 percent of GDP[39]. According to Srivastava, the informal sector accounts for 66.7% of total employment in Delhi and nearly the same share (68%) in Mumbai. Bulk of workers engaged in this sector is the urban poor.[40] CDS estimated that the manufacturing enterprise in Delhi, wholesale and retail trade units, transport units (private buses, taxis, and auto rickshaws), and hotels and restaurants alone accounted for 68% of the informal employment share in Delhi. Besides these, self-employment in the informal sector such as petty trade and vending, domestic help/ services, construction and repairing activities too, had proliferated significantly.

By virtue of its sheer size, function and cost effectiveness, Delhi's informal sector has become organically linked with the formal sector, and the latter is unable to sustain itself without it. Delhi's two Master Plans of September 1962 and August 1990 for the comprehensive planned development of the capital city completely failed to anticipate this trend and its implication for human settlement management. By not accommodating this vital sector which is the lifeline of the poor, the Master Plan in fact created conditions by which informal livelihoods and informal human settlements were regarded as violations of the Master Plan, and poor seen as land encroachers or pollutants.

The story of Delhi's first round of resettlement to the city outskirts of nearly 2,16,000 squatter families had mixed results. Families resettled in areas in close proximity of new work centers prospered and became success tales, whereas others (the larger majority) far away from

livelihoods returned nearly 40 percent families back to squatting. For the poor livelihoods is prioritized over habitation, and preference was to sell the land and return to old places of work in new slum settlements. For the primary goal of resettlement to become prevention of impoverishment and improvement of livelihoods, governments and technical agencies must understand the economics of dispossession, impoverishment, and recovery.

Employment and occupation: Data from the Economic Census

As per the Economic Census of India 1998 and the Delhi 21 report, there are 12.64 million enterprises in urban areas, 97.8 percent of which are non-agricultural activities. 61.5 percent were own account enterprises while the rest (38.5%) were establishments.

Table 1: Number of Enterprises by location & type of enterprises - All India, (in '00)

No	Item	Urban	
		Number	**%**
1	Number of Enterprises		
	i) Agricultural	2742, (2.2)	7.9
	ii) Non-Agricultural	123672, (97.8)	46.0
	iii) All Enterprises	126414, (100.0)	41.7
		(100.0)	
3	Number of Establishments		
	i) Agricultural	575, (1.2)	15.5
	ii) Non-Agricultural	48089, (98.8)	55.9
	iii) All Establishments	48664, (100.0)	54.2

Note: Figures in brackets under show the percentage of enterprises to all enterprises in the respective areas

Total number of persons working in all enterprises in urban areas in India was 43.40 million or 52.1 percent. Of the total urban employment in non-agricultural enterprises 85.5 percent were males and 12.5 percent females. Hired workers constituted nearly 62.1% of the total employment in urban areas and nearly 73.6% of the urban workforce worked in establishments. In Maharashtra 12.8 percent enterprises were located in urban areas and it provided 12.5 percent of employment. The EPW research foundation41 estimated that in 2001 78.4% of Delhi's GSDP and 51.81% in Mumbai came from the service sector.

Table 2: Informal sector as share of non agricultural and total employment and as a share of non agricultural and total GDP in various developing countries42.

Countries (years)	% non agricultural employment	% non agricultural GDP	% total employment	% total GDP
India (1990-91)	73.7	48.1	34.4	32.4

Table 3: Size of female employment and contribution of women in the informal sector in various countries.

	Percent of women's contribution in			
	Informal sector employment	Informal sector GDP	Total non-agricultural GDP	Total GDP
India 1993	**22.7**	**22.1**	**10.3**	**7.2**

Delhi contributes 2.62 percent of the total enterprises and 5.23 percent of total adult workers in the country. Its enterprise growth in the 1980s was 5.79% per annum, rising to 6.46% per annum in the 1990s. The Economic Census has estimated that the average annual growth of employment in Delhi has doubled from 4.33% during 1980-90 to 8.67% during 1990-98, the maximum growth being in the manufacturing, industries, transport, communications, social and personal services and wholesale and retail trade sectors which largely employ the poor.

The growth of the informal sector in Delhi has been spontaneous and without intervention of the planning or development machinery. It has however, had and on the whole their contribution to the economy has been very positive and desirable. Despite the high level of contribution of the informal sector to Delhi's total employment and GDP, its planning systems do not recognize this necessary component and restricts the growth of the sector through land use regulations, neither providing land to the sector nor allowing them to operate at places where they have created a niche for themselves.

The CDS study noted that of more than half the self-employed workers in Delhi, 20 to 25% were in *pretty trade and vending (*reriwalas: kiosks, fruit and vegetable vending etc. feriwalas: cloth vending, footpath vending etc. rag pickers and kabariwala (junk dealers), fish and meat vendors, tea stall owners and workers, lottery brokers, etc. About 15 to 20% were engaged in various types of *domestic and non-domestic services*, such as maid servants, chowkidar (watchman), street cobbler and barber, darzi (cloth repairing), dhobi (washer man) and presswala (irons clothes), rickshaw and cycle repairing, porter, poojari (priest), private tutor etc. 10 to 15% were engaged in informal *manufacturing and construction activities* such as painter, plumber, construction labourer, electrician, carpenter, radio and TV repairer, blacksmith, locksmith etc. About 7% were engaged in daily wage labour without any specific activity. A number of persons were also engaged in *informal transport sector* such as rickshaw pulling,

goods trolleying etc. The study concluded that *" The experience of Delhi has brought out the dynamic role of the slum and squatter settlements and their informal economic activities…… and the high value added contribution ….. to the gross national product and to a large extent, in keeping the wheels of commercial and industrial activities in the formal sector in operation, as also contributing to the high quality of life in the formal habitats.22*

Mahrashtra's State Domestic Product is the second highest in the country, and its per capita income is 40 percent higher than the national average in 2001, yet 26 percent of its population live below the poverty line.

'Coping with Urban Poverty – Ex-Textile Mill Workers in Central Mumbai '

"Workers engaged in the urban informal sector form the bulk of the urban poor. Workers in this sector get low wages or if they are self-employed, their income is meagre. This implies that their living conditions are low and, if employed, their wages are less than the stipulated minimum wages. There are hardly any regulations on their working conditions and social security is virtually non-existent. A large section of this population consists of low-skilled rural migrants or migrants from smaller towns. Hence, for these people, right from the time of their entry to the city they become a part of the informal sector as they have neither the skills nor the opportunities to enter better-paid and more secure formal sector jobs. They thus move from one level of poverty, at their place of origin, to another level of poverty, at their destination. At the same time there is a growing section of workers in the formal sector who have lost their jobs and are compelled to work in the informal sector. For these people and their families this change means a reduction in their standard of living and insecure, unregulated employment."

Sharit K Bhowmik and Nitin More

City planners however have made little attempt to cater to the poor or create space for their means of employment. Solutions offered leave the core of the problem unaddressed. Apart from informal employment, the Master Plans do not address the problem of shelter for the poor, largely due to a lack of understanding of the informal sector and its contribution to the economy. This perpetuated rather than diminished the inequity among city classes. The recent MPD 2021 for Delhi has for the first time discussed the issue of housing for the poor.

Despite clear evidence supporting slum upgrading, both the judiciary and the administration favor slum resettlement that too at a distance in a majority of cities. In Delhi, while DDA /MCD is ordering large-scale evictions resulting in massive displacements of slum dwellers, from their place of self-created, albeit inadequate living, to yield space for six major development projects; commercial complexes, flyovers, recreational parks and roads, in Mumbai, due to presence of a strong federation of slum dwellers the policy has become more humane.

Chapter 2
Approach and Methodology

Delhi and Mumbai, the two mega cities have been identified for the study as these contribute significantly to the national economy and have huge slum populations. In Mumbai about 48 per cent of population live in low-income settlements. Delhi has witnessed a sharp increase in the growth of slums. Delhi is characterized as a service sector city i.e. engaged largely in activities related to administrative, legal, business and other professional services. Mumbai was deemed to be a manufacturing city, resulting in high in migration. Delhi and Mumbai have adopted different strategies for dealing with slums. Delhi has favored resettlement and has in a phased manner relocated households to the city fringes. Mumbai has followed the on site upgrading approach as part of its Slum Redevelopment Scheme in collaboration with an NGO called SPARC. The two differential policies allow for a comparison of the two strategies.

2.1 Selection of sites

In Delhi, three relocated (resettled) sites and corresponding three non-relocated sites were selected, where as in Mumbai, three upgraded sites (resettled) and corresponding non-upgraded sites were selected for the study.

Table 4: Resettled and Non-Resettled sites in Delhi and Mumbai

Delhi			
Relocated Sites	**Code**	**Non Relocated Sites**	**Code**
Bakkarwala.	DA1	Gole Market	DB1
Bawana	DA2	Yamuna Pushta	DB2
Bhalaswa	DA3	Rohini	DB3
Mumbai			
Upgraded site	**Code**	**Non Upgraded Sites**	**Code**
Rohidas Nagar Mulund	MA1	Sai Sradha Mulund	MB1
Nutan Nagar Borivilli	MA2	Nutan Nagar	MB2
Santoshi Sion Dharavi	MA3	New Shivneri Coop Society, Dharavi	MB3

The selection of the sites was based on the following criteria:

Resettled Sites in Delhi:

- The first criterion was the time period of relocation. The settlements that have been settled in the last two years were considered. Reason for selecting recently shifted settlements is to ensure that memory of the resettlement process is still present among the respondents. Different time frames have been selected for each of the three resettled sites to examine the temporal dimension. It is assumed that the family will be in the deepest shock in the first 6-12 months following the resettlement. Expenditures will be high and incomes would be low. In the second year after resettlement, it is expected that households would have reinvented their livelihoods with incomes reaching a plateau and then starting to rise.
- Distance of the settlement from the resettled site was the second criteria for sample selection. It was assumed that those shifted close to their old sites were more likely to continue with their existing livelihoods reducing the impact of the economic shock. Those at mid and far distances were likely to feel the maximum impact of the resettlement.
- Medium sized settlements of about 1000 households were selected for the study.
- Settlements were chosen from different parts of the city to ensure complete city coverage.

Non-resettled Sites in Delhi:

Non-intervened settlements selected were those in close physical proximity to the intervened settlements, of comparable size and existence. Being in the same region it was assumed that these settlements would have similar occupational patterns (Annex I).

In case of Mumbai, the three on-site upgraded sites (settlements) were those that formed part of the Slum Redevelopment Scheme. Non-upgraded sites (Matching sites) were selected from the vicinity.

However, since the resettlement process in Mumbai has not happened within the past two years, the temporal criteria for selection was dispensed with. Three upgraded settlements and three matching settlements were included in the sample.

2.2 Data Collection Methodology

Primary Data:

Primary data was collected from the selected sites by applying following techniques:

- Participant Observation Method
- House hold survey with the help of structured and unstructured interview schedules
- PLA (Participatory Learning and Action)
- Household mapping technique

Sample size:

Stratified random sampling method was adopted to select the sample size for primary data generation.

Household Sample:

In Delhi, each settlement was first divided into 4 parts. Then, 15 households were selected randomly from each part making a total of 60 households in each settlement for the survey. Demographic and income information was collected for all households in all the 12 settlements using the household mapping technique.

The actual data was collected from 180 Households from the selected Relocated Sites and 179 households from the selected Non-Relocated sites.

In Mumbai, 180 households were identified from the selected upgraded sites and 231 households were selected from non-upgraded sites for detailed questionnaire survey at Annexure XI

Data has been collected around a set of socio economic indicators that measure input costs and expenditure patterns. Indicators used in the study are indicated in the following diagram.

Focus group discussions and participatory tools such as community household mapping, matrixes etc. were used to collect qualitative data. Quantitative data was collected using questionnaires. The research methodology is described in the Figure 1.

The following table shows the particulars of the house hold sample size in Delhi and Mumbai:

Table 5: Household Sample size of sites in Delhi and Mumbai

Delhi					
Relocated Sites	**Code**	**Sample HH**	**Non Relocated Sites**	**Code**	**Sample HH**
Bakkarwala.	DA1	60	Gole Market	DB1	59
Bawana	DA2	60	Yamuna Pushta	DB2	60
Bhalaswa	DA3	60	Rohini	DB3	60
Total		*180*	*Total*		*179*
Mumbai					
Upgraded Sites	**Code**	**Sample HH**	**Non Upgraded Sites**	**Code**	**Sample HH**
Rohidas Nagar Mulund	MA1	61	Sai Sradha Mulund	MB1	57
Nutan Nagar Borivilli	MA2	82	Nutan Nagar, Borivilli	MB2	51
Santoshi Sion Dharavi	MA3	37	New Shivneri Coop Society, Dharavi	MB3	123
Total		*180*	*Total*		*231*

2.3 Research Methodology

The methodology followed is described below:

Stage I: Amending the Specific Objectives of the Research: Objectives of the research were redesigned to better meet the overarching objectives of the proposed study.

Stage II: Data Collection:

Secondary review: Macro level data on the existing subject has been reviewed. Literature search on the subject has been made with a view to develop the indicator base for the study.

Interviews with Concerned Departments and Officials: Data has been collected through interviews of concerned officials of different departments responsible for slums and resettlement.

Primary data collection: Both qualitative and quantitative data has been collected using questionnaires and participatory tools. Household mapping tools and other PLA instruments used for data collection included wealth ranking, matrix ranking, seasonality mapping, and asset profiling for accurately estimating family incomes, savings and debt liabilities. These tools have been used for collecting data from all settlement households.

Questionnaire has been used to collect data from selected households in the settlement.

Stage III: Data and Statistical Analysis

Data has been analyzed using suitable statistical instruments and other tools to estimate the benefits and costs of resettlement to the city economy. Besides, the vulnerability analysis of low-income settlements as a result of relocation has been conducted with a view to informs policy makers and planners of cities. Attention has been paid to analyze the inter linkages with and the contribution of the poor in the slums to city economy.

1. Analyzing key variables: The key variables that have been analyzed include income of the household, income of the earning member, per capita incomes, employment, savings, loans and borrowings, household expenditure with special reference to the expenses on food, health, travel, education; housing, tenure status, facilities, etc

2. Examining Databases on city economy: The required data on city economy of Delhi and Mumbai have been compiled from official reports and websites of concerned Departments and agencies.

3. Measuring Impact: Impact of resettlement on the city economic development has been examined using various indicators. These include loss in income due to relocation, absence or lack of certain specific category of services, potential socio-economic loss due to school drop out, etc.

4. Costs and Benefits of Relocation: The costs of relocation of settlements to far away sites in the city fringes are often underestimated by the city managers. The benefits, particularly the value of land and the development projects in the proposed sites are seen to be very attractive. A close look on the benefits and costs of relocation will give a different picture in most cases. Keeping this in mind, an attempt has been made to analyze the key benefits and costs in the framework of Social Cost Benefit Analysis. The analysis has been carried out for unit household with alternate scenarios: Resettlement vs. On-site upgrading.

The data analysis is presented in a comparative framework of Delhi and Mumbai assessing impact of relocation vis-à-vis onsite upgrading.

2.4 Specific Tools and techniques:

The analysis of the study has been largely based on simple statistical methods such as percentage analysis, averages, scores, ranks, and qualitative analysis of data gathered through focus group discussions and PLA techniques etc. In addition to this the following tools and techniques were employed to analyze the variables.

Gini Coefficient and Lorenz curve:

Gini coefficient is the most widely used measure of inequality. Gini coefficient is based on the Lorenz curve, a cumulative frequency curve that compares the distribution of income (or expenditure) with the uniform distribution that represents equality.

To construct the Gini coefficient, graph the cumulative percentage of households (from poor to rich) on the horizontal axis and the cumulative percentage of income (expenditure) on the vertical axis. A

diagonal line represents perfect equality. The Gini coefficient varies from 0 to 1. Gini coefficient becomes 0 when there is perfect equality and it becomes 1 when there is perfect inequality.

In this study, the Gini coefficient was estimated by the following equation[43]:

$G = 1- \sum (x_i - x_{i-1})(y_i + y_{i-1})$

G – Gini coefficient

x_i - a point on X axis (i.e.cumulative share of households)

y_i - a point on Y axis (i.e. cumulative share of income)

Gini coefficient however has some limitations. For example, the total Gini of society is not equal to the sum of the Ginis for its subgroups.

Head count Index

The most widely used measure of poverty is the head count index. This simply measures the proportion of the population that is counted as poor, often denoted by P_0.

$$P_0 = 1/N \sum_{I=1}^{N} I (Y_i \leq z)$$
$$= N_p/N$$

where N is the total population and I(.) is an indicator function that takes ona value of 1 if the bracketed expression is true, and 0 otherwise. So if expenditure (yi) is less than the poverty line (z), then I(.) equals to 1 and the house hold would be counted as poor.

The head count index is widely used since it is simple to construct and easy to understand. The head count index does not take into account the intensity of poverty.

Sen Index

Sen(1976) proposed an index that sought to combine the effects of the number of poor, the depth of their poverty, and the distribution of poverty within the group. The index is given by

$$P_s = P_o [1-(1-G^p)*\mu^p /z]$$

Where P_o is the headcount index, μ^p is the mean income(or expenditure) of the poor, and G^p is the Gini coefficient of inequality among poor. The Gini coefficient ranges from 0 (perfect equality) to 1 (perfect inequality).

Cost Benefit Analysis and Forecasting

Cost Benefit Analysis is not strictly concerned with measuring impact. It enables policymakers to measure program efficiency by comparing alternative interventions on the basis of the cost of producing a given output. It can greatly enhance the policy implications of the impact evaluation.

Within the scope of the study, the cost benefit analysis has been carried out involving the following steps:

- Identification of benefits and costs
- Quantifying the monetary value of the possible benefits and costs
- Estimating the Present Value of Benefits and Costs
- Estimating Net Present Value (NPV) and Benefit Cost Ratio (BCR)
- Conducting sensitivity analysis

Once benefits and costs are estimated, the present value (PV) of a stream of benefits and costs will have to be calculated. For this purpose, the future benefits and costs will be discounted to the present value with the help of appropriate discount rate and a given period of time. To analyze the economic worth of the project, this study has used two criteria, namely net present value (NPV) and benefit cost ratio (BCR).

The present value of benefits and present value of costs are compared to obtain the net present value (NPV) and benefit cost ratio (BCR). NPV is the difference between the PV (B) and PV(C) whereas the BCR is the ratio between PV (B) and PV(C). The necessary conditions for the economic worth of the project is that the NPV must be positive (NPV>0) and the BCR greater than unity.

NPV: The present value of the estimated benefits and costs will be calculated on the basis of a chosen rate of discount (r) and period of time (t)

The present value of benefits is,

n

$$PV(B) = \sum_{t=0}^{n} B_t /(1+r)^t$$

where B_t = the total benefits for the year 't'

r = Rate of discount

n = number of years.

Similarly, the present value of costs

$$PV(C) = \sum_{t=0}^{n} C_t /(1+r)^t$$

To incorporate the effect of inflation, the real rate of interest (r*) has to be taken instead of social rate of discount (r). The real rate of interest is the difference between the nominal (social) rate of interest and the rate of inflation.

The NPV = PV (B) – PV(C)

BCR = PV (B)/PV(C)

Estimating Impact on Income and Occupation patterns and City Economic Growth

Impact on the city's economic growth will be calculated using indicators such as per capita income, reduced per capita incomes over time, losses due to unemployment, illness, food insecurity and additional costs to cities through enhanced welfare and health budgets. The opportunity cost of income foregone due to lack of skills will be measured by analyzing the prevailing wages and earnings in the potential jobs for similarly educated persons in the employment market.

Research Outputs

The study has provided two key outputs:

- Policy Statement for the National Government on on-site upgrading and resettlement
- Vulnerability Analysis in the context of the two approaches for slum development and recommendations for policy makers and planners of cities.

The recommendations of the study will provide a broad outline under which the cost of resettlement can take into account indicators other than sites and services.

2.5 Data Sources and Constraints

Collection of information from concerned departments:

In order to collect data on resettlement, different officials were interviewed. For Delhi the main reference source has been the Slum & JJ Department of the Municipal Corporation of Delhi and Delhi Development Authority. For Mumbai, the Maharashtra Housing and Area Development Authority (MHADA), Mumbai Metropolitan Region Development Authority and Maharashtra Slum Rehabilitation Agency (SRA) are key information sources. However the study is subject to the following data gaps and constraints.

- In estimating costs involved in relocation of slums, some components have not been factored in such as the cost of setting up the social infrastructure. While effort has been made to talk to the officials from the transport, health and education departments, it is not practically possible to interact with each and every concerned department within the time frame of the study. Costs for such infrastructure has therefore not been estimated.

- Data collection has indicated some critical environmental costs of relocation. For example some of the sites selected for resettlement in Delhi are on land that was a waste dump and has high toxic elements in the water supply with severe, long-term health impact. These costs are beyond the purview of the present study and will only be flagged out for detailed future review.

Since a large number of agencies and departments are involved in the process of relocation, there are frequent instances of passing the buck adding to data collection setbacks.

Chapter 3
The Tale of Two Cities

3.1 Slums in Mumbai

In Mumbai 55 percent people are either slum or pavement dwellers (Census of India, 2001). Even as Mumbai is India's largest metropolis and urban agglomeration and its finance and trade capital, it began as a group of '*koli*' fishing villages. Over the years the city has had an explosive population growth. Greater Mumbai[44] has expanded from 2.96 million in 1951 to 11.91 million in 2001. During the same period, its slum population rose from 0.4 to 6.2 million (Census of Maharashtra, 2001), the highest in the country. Mumbai share of the national annual tax collection is Rs.40000[45] crores or 1/3rd of the total. It generates over 20 percent of the State's Gross Domestic Product, 13.4[46] percent of the national Gross Domestic Product, manages over a third of the country's total foreign trade (SPARC, 2003).

Slum pockets in Mumbai have largely developed near industries, providing housing for the labor. Over the years these have been both extended and densified.

Table 6: Growth of Population in Mumbai

Year	Population	Decennial Growth Rate
1951	2,966,902	-
1961	4,152,056	39.9
1971	5,970,575	43.7
1981	8,243,805	38.07
1991	9,900,000	50.09
2001	11,914,398	-

Source: Census of India, Registrar General of India

Mumbai's slums lack basic amenities. Lack of access to secure tenure, water, toilets, drainage systems and internal roads has resulted in degraded living environments in these areas. In an estimate prepared by SPAARC, fifty percent of city's population in slums occupied only 16 percent of the land area, indicative of inequities.[47]

Government Approach to Slum Development

Until the 1970s, the Government of Maharashtra followed a policy of slum demolition, albeit unsuccessfully. Invariably, poor households rebuilt shelters either on the same site or close by in connivance with street bureaucrats (field officials) and the land mafia. Erratic attempts were also made to resettle slum dwellers. These too failed due to government's exclusionary policies. Poor returned to original locations to maintain their social and economic networks.

Mid 1970s according to Burra, saw a dramatic change in slum policy, with slums being seen as opportunities rather than obstacles to development and slum dwellers seen through the human right's lens. Water, sanitation, electricity and other services in slums improved and resettlement plans became mandatory in cases of eviction. Escape of resettlement resources was blocked through a census of huts on public lands and issuance of photo passes to eligible dwellers. While these confidence-building measures helped the poor on public land, those squatting on private properties were missed. Exclusion from decision-making persisted.

Burra notes that two schemes funded by the World Bank; the Slum Upgradation Programme (SUP) and the Low Income Group Shelter Programme (LISP) in the mid 1980s, helped to consolidate further, thinking on slum upgrading in the city. The SUP gave a thirty-year renewable lease of land to cooperative societies of slum dwellers (where the lands were not needed for public purposes), provided civic amenities on a cost-recovery basis and gave loans to upgrade people's houses. The LISP, provided subsidized land to the poor to build their own homes in accordance with a type design. Burra feels that although 85,000 families benefited from both these programmes, conditions on the ground did not change significantly. On the progressive side SUP introduced the concept of land tenure and LISP a shift in the role of the state from provider to facilitator. The down sides were, the disregard of inequalities in size of holding and cornering of resources by the non -poor in the two schemes respectively. Both programmes lacked genuine community participation and missed poor on central government or private lands.

The Slum Redevelopment Scheme

The Slum Redevelopment Scheme aimed to incentivise private sector participation in housing for the poor on existing sites by increasing Floor Space Index (FSI) and introduction of transfer development rights. Additional space created by the former was to be sold to make the project commercially viable and the scheme affordable to the poor. SRS envisaged a changed role of the Government, as that of a facilitator and contributor of land where required rather than the provider.

The Slum Rehabilitation Scheme (SRS) was introduced in 1995 vide an amendment to the Slum Areas (Improvement, Clearance and Redevelopment) Act, 1971. This facilitated the setting up of an autonomous Slum Rehabilitation Agency (SRA) under the Chief Minister to implement slum-upgrading initiatives to serve as a single coordinating authority with representation of the multiple executing agencies, land developers, civil society, cooperatives of slum dwellers etc. SRA was empowered to make changes in the City Development Plan and grant building permissions through necessary changes in the Bombay Municipal Corporation Act and the Maharashtra Regional Town Planning Act. Such was the legislative and institutional framework laid out by the Committee.

1,000,000 slum and pavement families whose names were on the 1995 electoral rolls and who continued to stay in the slum were eligible for a free 225 square foot tenement (irrespective of the area of slum structure) plus Rs.20000 towards a corpus fund, interest upon which was to help defray monthly outgoings for maintenance as well as municipal taxes. Costs for development were to be met from sale profits of extra tenements. Municipal taxes were reduced to 20 percent of prevailing rates to increase affordability, with provision for progressive increase over a period of time. Commercial areas like shops and restaurants were also to be given equivalent floor space free of cost. Minimum 70% of eligible slum dwellers in a pocket were to form a co-operative housing society for the purpose. During the phase of construction, families had the option of finding their own alternative accommodation, regrouped on the site itself, or accommodated in transit camps provided by the builder. Relocation, where necessary, was to be on sites closest to the original. No financial inputs were envisaged from the State government. The developer was expected to invest the resources (money, men and material) for construction of free houses for the slum dwellers as also to provide space for crèches, society office, welfare centers etc.

A uniform FSI formula was developed and the existing city FSI of 1.33 and 1 (in the suburbs) was increased to 2.5. FSI sanctioned beyond 2.5 could be taken as Transfer of Development Rights (TDR); a certificate of the Municipal Corporation of Greater Mumbai capable of being used as a negotiable instrument enabling an owner to either construct or sell in the open market. All constructed area over and above the rehabilitation area could be sold in the open market. The SRA policy was an attempt to cross-subsidize slum rehabilitation from profits generated by sale of additional tenements and TDR and make markets work for the poor. An additional 5 percent incentive in commercial areas was available to projects implemented by the slum society or NGO.

SRA was not valid on lands owned by Central agencies such as the Railway/ Airport Authorities, Port Trusts etc. Redevelopment on such lands was to be managed through a negotiated dialogue or placement of slum reservation on the relevant land, which allowed the land-owning agency to be compensated by payment of a mutually agreed price or provision of alternative 'buildable' area through TDRs.

In spite of the enabling provisions of SRS, Mumbai has continued to witness unprecedented evictions. In the National Park area, despite presence of schools run by the Corporation, government rations shops, dispensaries and 'pucca' structures with amenities, like electricity, water, sanitation and telephone lines, provided by the authorities 4.5 lakh slum dwellers were summarily evicted. Almost all residents had lived here for over 6 years with about 30 percent having been residents for over 20 years. Bulk was migrant labour (many from the Maharashtra hinterland) engaged in daily wage work (56%), construction work (21%), services sector (12%), and domestic work (7%). Not being in fixed jobs, most earned a pittance; 22 percent earned less than Rs.1000 per month and 50 percent earned between Rs.1000 and Rs.2000 per month. The National Park eviction was ordered by the High Court in May 1997 that called for immediate demolitions of dwellings built after January 1995, with the balance to be rehabilitated in a period of18 months. Resettlers were offered land at a distance of 60 kms with the nearest local railway station 5 kms away. In addition households were expected to pay Rs.7000 for a plot measuring 15 ft by 10 ft. before February 2000 or be demolished. Soon after, the BMC (Brihanmumbai Municipal Corporation) demolished the Pimpripada slum at Malad by bulldozing 200 hutments and burning 500 and the Forest Department nearly 3000 huts, both pre and post 1995 hutments as also victims of the 1992-93 anti-muslim pogrom, resettled by the government. During the forced evictions, pitched battles with the police led to over 100 people being injured and hospitalised. Four schools serving 20,000 children were also removed. Mopping up operations continued throughout July and August despite the monsoon and destroyed slum property worth lakhs. Delay in provision of alternate sites has driven people to penury[48].

SPARC, an NGO established in 1984 by a group of professionals has since been working with pavement dwellers, primarily women, who bear the brunt of demolitions through losses of their meager belongings. SPARC's efforts to better understand the effects of demolitions on women, led to the formation of Mahila Milan; an alliance between the National Slum Dwellers Federation and women pavement dwellers. SPARC's role is to design and develop strategies to enable its partners to meet with and make demands of government agencies. In addition, it also performs administrative tasks and raises funds needed for its work.

The first NGO experiment to construct apartment buildings started in 1999 by SPARC, to construct 212 poor households under the current SRA policy in partnership with the RISG Housing Societies of Dharavi. The project has grown today to include two other communities as well. SPARC was intimately involved in developing land, supervising construction, obtaining licenses and permits, and negotiating with state authorities for land tenure. It set a number of construction quality and design standards, raising the plinth of this building one full floor above neighboring constructions, doubling the standard width of corridors and passage-ways and provided apartments with 14 foot ceilings and extra loft space. A committee of local residents was involved in all stages of design and construction and capacity of local society was built to enable them to handle bureaucratic requirements. Funds were raised from the Citibank, which agreed to provide Rs.60 million loan but released only a portion of it

Assessment of SRA

SRA scheme according to SPARC has not achieved its proposed target of building1000000 tenements in a span of 6 years. Even after 7 years, just about 19,000 tenements have been built and 80,000 are in various stages of approval/construction. Complaints of builders having offered monetary compensation to deprive original slum dwellers of housing have been reported. There is also a general consensus that SRA schemes are becoming builder driven with incomplete constructions as market prices fell; a people's movement getting hijacked by the construction industry. Limited achievement of SRA can also be attributed to the fall of land prices in Mumbai, which have tumbled by half since the mid-1990s; reducing commercial viability of the scheme. Except for certain profitable locations, most other schemes have flopped.

Despite the lack of success, SPARC/NSDF/MM believes that SRS is the only way for urban poor to get access to land and a subsidy from the market. The Alliance itself has worked as a developer and the concessions of SRA have helped to ensure the success of the scheme. SRA ensured that land was available free of cost and opened the doors for cooperative societies of slum dwellers to participate in their own redevelopment and provided the financial mechanism to do so.

3.2 Slums in Delhi

Table 7:Volume of Net Migration to Delhi

Year	Net Migration to Delhi (In, 000)
1961- 1971	633
1971- 1981	952
1981- 1991	1306
1991- 2001	1600
Source: Census of India, Registrar General of India	

Delhi is one of five mega cities in the country and one of the fastest growing urban megapolis in the world. Since the 1960's, its population has increased by nearly half in each decade. Despite a decline in its decennial growth rate in the last decade, Delhi's population was estimated to be nearly 14 million in 2001 registering a net increase of 4.36 million over the Census of 1991, outpacing the growth of Mumbai in the same period. The population of Delhi is projected to increase to 18.24 million by 2011 and 30 million by 2051.

Table 8: Growth of squatter settlement in Delhi

Year	No. of Squatter families
1951	12,749
1956	22,415
1961	42,815
1966	42,668
1971	62,594
1973	98,438
1976	20,000
1981	98,709
1983	1,29,000
1985	1,50,000
1987	1,71,000
1988	2,10,000
1991	2,59,344
1994	4,80,000
Source: Slum Department and JJ Department, Delhi Sum Improvement Board,Municipal Corporation of Delhi	

While migration was chiefly responsible for the rise in Delhi's population (38%; 1.6 million), internal growth (5.62%; 2.7 million) too has added to its vast numbers. Despite a decline in the relative contribution of in-migration, absolute number of migrants to the city has increased sharply.

Delhi's rapid slum growth has coincided with its rapid population growth. In 1990, the Food and Civil Supplies Department surveyed 2.6lakh slum households in 929 JJ colonies.

In 1994, the Slum Wing estimated that 4.8lakh people, or nearly 25 percent of Delhi's population lived in 1080 JJ Clusters. In 1997, NIUA counted 1190 low-income /slum settlements throughout Delhi (NIUA, 1997). Majority of these clusters were concentrated in the North and East Delhi. Almost all (99%) of the clusters were on Government land owned by the Delhi Development Authority (DDA). The first ever enumeration by the Census of India 2001 for Delhi estimated 18.5lakhs persons to be living in slums alone. For the same period, the Ministry of Environment put the figure at two and half

times the Census at 47lakhs. This constitutes between one fifth and one third of the total city population. Besides slum dwellers the city has about 90000 homeless people or pavement dwellers. Hazards Centre report in 2001 suggested that there were over 1,160 JJCs in Delhi (with increasing population density) that housed over three million inhabitants.

According to an estimate prepared by the Society for Development Studies , the rate of growth of squatter population in Delhi (natural growth of existing squatter population plus fresh migration) between 1981-94 was four and half times larger than the non squatter population (slum population: 13.2% pa; non slum: 2.9% pa)

Delhi has a cash based economy. This creates powerful opportunities for livelihoods among the poor. Poor people from rural areas find shelters in the numerous squatter settlements and provide cheap labour and services to the capital's burgeoning trade and industry. Despite the prospect, livelihoods for these poor are precarious. Most work in the informal sector in highly exploitative, competitive and temporary conditions without adequate safety nets. Poor occupy low paid insecure niches in this service economy. In spite of a higher cash disposable income, low ownership of the assets of production makes the poor more vulnerable to destitution. To add to this, the growth of the slum population builds economic pressure, which attenuates livelihood opportunities at the lower levels. The prevailing situation is maintained largely because the contribution of the poor to the overall city economy goes unrecognized.

Table 9: Growth of Population of Delhi

Year	Population	Decennial Growth rate
1901	405,809	-
1911	413,851	2.0
1921	488,452	18.0
1931	636,246	30.3
1941	917,939	44.3
1951	1,744,072	90.0
1961	2,658,612	52.4
1971	4,065,698	52.9
1981	6,220,406	53.0
1991	9,420,644	51.5
2001	13,782,976	46.3
Source: Census of India, Registrar General of India		

An overwhelming majority of migrants (81.56%[49]) were the rural poor in search of livelihoods or rural people lured by better opportunities of employment and living (Business: 7.65%, Education: 1.84%, Natural calamities: 0.12%). Most migrants come from the BIMARU states that have a poor score card on human development indices.

Squatter settlements grow as regional, linguistic, religious and caste affiliations. Such membership results in

strong social capital, despite conflicts over service issues, that is often displayed during times of stress. Majority of the adult migrant population (71.2%) is illiterate whereas less than 1 percent children have not attended school. Improvement in education status is clearly associated with its opportunity costs a propos income generation. School dropout rates were estimated at 5.2%

The NSSO defines a slum as "an area with 25 or more temporary housing structures in a huddle, with practically no access to or inadequate access to latrines and water facilities. According to the MCD all such slum structures on public land are unauthorized". Low-income or informal settlements in Delhi have been further classified as; *Jhuggi Jhompri (JJ) clusters, Resettlement Colonies* (that housed the first wave of slum dwellers), *Legally Notified Slum Areas (*walled city having 2 million people in highly congested and dilapidated environments), *Unauthorized Non Regularized Colonies (*which have come up illegally on non residential lands and *Urban Villages* where slum like conditions prevail. Besides, about seventy thousand people are estimated to be living on city pavements. These are dispersed across the city, usually along railway tracks, roadsides, banks of rivers, parks, near sewerage and garbage dumps, etc. making the task of in-situ rehabilitation a major challenge. Most slum houses are semi permanent structures although these are increasingly becoming pucca two storied constructions.

Some typical slum features and vulnerabilities accruing from informal /formal status of stay in Delhi have been described by DUEIIP (2000), Hazards Centre (November, 2003) and CURE, 2004[50] as follows:[51]

- Permanent state of insecurity, notification or recognition of the area conferring abridged rights to water supply, sanitation, drains, pavements, other services.
- High environmental risks produced by location of settlements along drains, railway tracks, riverfronts, garbage dumps, etc. Most of these lands are untenable /un-upgradeable.
- Frequent economic shocks due to environmental disasters and relocations (Hazard Centre, Nov 2003)
- Deficient level of services as compared to affluent citizens as local authorities hesitate/are prevented from investing in informal settlements for fear of conferring legal title or wasteful expenditure. For Delhi, while the Supreme Court recognizes the essentiality of water for survival, the High Court has debarred local authorities from providing infrastructure in illegal settlements. The State through its instrumentalities according to Grover (2002) is duty bound to ensure an equitable distribution of water to its citizens. However, the quantity and quality of the water supplied seldom, if ever, complies with set standards.

- Low client power and control over city resources because of a low level of community organization, lack of information, low education levels / abilities to negotiate for their rights and raise a demand for better services.
- Low awareness of the opportunity cost of these resources among the residents.
- Negative political economy that keeps the poor underserved or last to be served by preventing 'customerization' through their insistence on free services, reducing accountability of utilities to poor (read free) users. As a result the poor have to resort to buying the services from private vendors typically at prices 10 times those that they would have to pay an efficient utility or pay high coping costs for accessing free services.
- High level of socially tensions and hostility, due to higher levels of inter-personal crimes including crimes during open defecation (Khosla, 2004).

Caution: No Water Ahead

Bhalsawa JJ colony is situated on the North Eastern edge of Delhi surrounded by an overused landfill site, Bhalsawa Dairy and a string of unauthorised colonies. With nearly 5000 families relocated to this area, it was touted as the model resettlement colony by the then Union Minister for Urban Development. However one of the things that people desperately wanted and couldn't see anywhere was water. There were of course a few hand pumps installed but instead of water they poured out a foul smelling, saline liquid. On the back wall, in bold red lettering there was a warning cautioning people not to use this liquid for drinking purposes. In desperation many people turned to the nearby Gurudwara, which had been standing lonely for quite some years. The Gurudwara, refused to oblige. But this cold- shouldering couldn't last long as people became more desperate and thus more persistent. So, a water pipe would be given outside the boundaries of the gurudwara on certain hours of the day and people were expected to take the water in a 'disciplined' manner. Its now over three and a half years since Bhalaswa JJ colony was set up, but even now it stands on the margins of the water supply network of the city both in terms of the quantity as well as quality of water with little opportunity (because of geographical marginalisation) for the people to tap into the pipes that give more and better quality water.

Lalit Batra, Reader List at sarai.net Friday June 25 2004 12:03 AM

Besides slum settlements, the new trend in housing relates to the mushrooming of unauthorized colonies in the city. These settlements are on land not specified for residential use in the City Master Plan and have proliferated primarily due to the lack of a comprehensive housing policy that has

slowed down the development of adequate stock to meet housing requirements of people as also absence of appropriate mechanisms housing growth. Unauthorized colonies generally contain the more affluent households with higher affordability for personal arrangements for accessing services. Despite their illegitimate status and unlike the slums, over the years they have been able to access basic services legitimately through the political route that regularizes their stay.

Approach to Slum Development in Delhi

The Slum and Jhuggi Jhopri (JJ) Department under the Municipal Corporation of Delhi is responsible for provision of slum services as also plan for resettlement of squatter families. As per the Slum Wing, there are two types of slum settlements: the notified areas and the non-notified areas. Notified slums are those, which have been declared/notified as slum areas under section 3 of the Slum Areas (Improvement and Clearances) Act, 1956. Under this Act those areas of the city where buildings are unfit for human habitation by reason of dilapidation, overcrowding, faulty arrangement and design or where due to faulty arrangements of streets, lack of ventilation, light sanitation facilities, or any combination of these factors the living environment are detrimental to safety, health or morals. The major proportion of such notified slums are found in the medieval walled city of Shahjahanabad and its extensions, which was originally meant to accommodate 60,000 population, but where an estimated 2 million population is now living. Neither the provisions of Slum Areas Act nor of the Master plan for the walled city have been implemented since the city was overtaken by problems of a different magnitude, which were created by the unending waves of fresh migrations and therefore the old city was left to fend for itself, leading to further deterioration of its living conditions.

In 1990-91 Delhi adopted a three-prolonged strategy to address the issue of slums:

- Relocation of slum households from lands where land owning agencies had proposed projects in the larger interest of people. Finances for resettlement were to be shared between the Slum department and the land owning agency and was subject to approval from the former.

- In–situ upgradation in areas where land owning agencies issued No Objection Certificates for the same to the Slum Department.

- Extension of minimum basic civic amenities for community use under the scheme of Environmental Improvement of Urban Slums and the Pay and Use toilet complex scheme for constructing toilets, or providing mobile toilet vans in the clusters irrespective of status of encroached land till their coverage under one of the aforesaid two strategies.

Although it had a multi pronged approach to slum development, the State adopted the policy of resettlement more vigorously. Delhi has witnessed two waves of slum resettlement, in 1975 during the emergency when 2.4lakh poor families were resettled in 45 resettlement colonies at the then city boundary albeit in contravention of the existing City Master Plan in low lying areas. They were offered plots ranging in size from 21 to 25sq meters subject to land availability at a subsidized land rate of Rs5000 per household. Households were offered credit to build the housing. The basic infrastructure was added in phases. In 1985, the scheme was discontinued on the assumption that the city had been "sanitized" and Slum wing began to focus from resettlement to improvement of slums on an "as is where is basis".

Several studies by Sabir Ali have indicated the lack of comprehensive planning for services in the areas. Despite allotment of 25 square yards of land to each dwelling unit, water and sanitation services in these colonies were supplied through public stand posts (1 for 40 families), hand pumps (1for 20 households) and community latrines (1 latrine seat for 7 households). While over the years all households in these areas have been connected to water supply and underground sewerage, condition of community latrines is bad due to over use and poor maintenance by DDA. Ali further notes the poor state of the pucca open drains with irregular cleaning, garbage collection and water stagnation (Ali, 1998a, Ali, 1998b). As a result, these colonies are being increasingly slummified.

The second wave of resettlement in Delhi began towards the end of the 1990s. Till September 2002, nearly 47363 squatter families from the inner city slums had been relocated to North West and South side of the city.

This phase of resettlement envisaged development of sites and services plots of 18 sq mts. each with 7 sq mts undivided share in open courtyards following the cluster court town house planning concept for resettlement of squatter families. The policy framework under which the settlement was carried out was:

- Sites measuring about five hectares were to be acquired and utilized for provision of 1000 plots/residential units by achieving a density of 200 units per hectare. In each of the layout, one hac of land was to be earmarked for provision of community facilities such as primary schools, open spaces, shishu vatika, basti vikas Kendra, community facility complexes, dhalaos etc. The layout plans to consisted of models of 4 to 6 units with a common courtyard.

- Even as the S&JJ Department was responsible for provision of infrastructure facilities within the layouts of the resettlement complexes for squatters, peripheral services were to be taken care of by DDA.

- Slum & JJ Department determines the eligibility of squatter families for resettlement in consultation with the representatives of the Land owning agencies through joint surveys.

- Resettlement is organized by setting up multi purpose cooperative societies comprising about 200 target families each. Allotment of sites and serviced plots are to be made on leasehold basis through cooperative societies.

- To enable Slum & JJ Department to implement the scheme Rs 23000/- per family was to be spent on resettlement. This amount was to be shared between the Department (Rs10000 out of the plan funds), the land owning agency (Rs 10000 to be paid in advance) and the beneficiary (Rs3000). This cost was revised upwards by the Department of Urban Development to Rs 44000 per relocation plot, with the following cost sharing arrangements: Rs 29000 per eligible squatter family to be given by the land owning agency, Rs10000 per family to come as plan support, and Rs 5000 to be shared by the eligible family.

- The 47,363 squatter families from various JJ clusters in Delhi have been relocated to colonies in Dwarka, Rohini, Narela, Molar Bandh, Madanpur Khadar, Holambi Kalan, Bhalswa, Bakarwala, Bawana, etc.

- Before shifting the families, construction of foundations up to the plinth level along with WC seats and baths are to be completed by either the S & JJ department or beneficiaries with the help of cooperative loans. However, to meet the requirement gap the department provides community toilet and bath complexes in relocated pockets or till arrangements for private latrines are made by families themselves, in conformity with the prescribed infrastructure standards.

Hazards Centre's assessment of the resettlement process in 2003 concluded that the poor in the resettled sites get lesser services.

The Slum Areas (Improvement and Clearance) Act (1956)

The Slum Areas (Improvement and Clearance) Act (1956) declared purpose was to enable the state to improve the housing conditions of slum dwellers by providing slum residents with alternative

housing that would meet minimum standards. The Slum Act, according to Hazards Centre, concerned itself with regulating *conditions* of the dwelling or building, and was not concerned with questions of *legality*. It was incapacity of the state to cope with the housing needs that led to a shift from clearance and resettlement to improvement of existing structures followed by the unbending interpretation by the Supreme Court of the Constitution during the emergency.

The Slum Act has remained virtually unchanged since 1964 and the procedures for determining the Right to shelter have become highly bureaucratized. The Supreme Court has, over the years has qualified the right of residence and right to livelihood and diluted them into mere rights to a legalistic procedure before slum dwellers are dislocated. While the Policy has been gentler, it too has depleted the rights of the displaced dweller, besides being non justifiable. The inconsistency between law, policy and court decisions impacts directly on shelter rights of the slum dweller.

Norms for In–Situ Upgrading

The Slum and JJ Department has established some basic minimum service norms for in-situ upgrading. These include:

- Drinking water supplies through municipal water hydrants/ India Mark–II deep hand pumps/ tube wells at a norm of one water post for 30-35 persons (mode to be determined by local conditions).
- Paved pathways and drainage facility up to outfall.
- Streetlights, one pole at a distance of every 30 meters; JJ households may obtain individual electric connections on payment of charges to DVB.
- Pay and use Jan suvidha complexes with toilets and bathrooms for community use or group toilets and baths. One WC seat for 20 to 25 persons and one bath for approximately 20 to 50 persons.
- Dhalaos/ dustbins for garbage disposal: 1 garbage bin for 15 households within 55 mts. of all dwelling units.
- Housing/Shelter: The shelter is to be constructed by the beneficiary with technical assistance from the Slum Wing. In order to upgrade the settlement, a new layout plan is prepared and land is redistributed among the squatter families. Each household is provided an area of 10 to 12.5 sq mts in the modified layout for reconstruction of pucca informal shelters.

Until 1992-93, the improvement and redevelopment of JJ clusters in a modified layout was being undertaken within an overall ceiling of Rs6000/- per dwelling unit. This amount was adjusted upwards

in 1993-94 to meet overall increases in cost of materials and related inputs to Rs9500/- per unit. Cost of services are shared as follows:

- Drinking water – 20%
- Pathways and drains – 20%
- Street lighting – 5%
- Jansuvidha/ sanitation/drainage – 50%
- Dhalaos and Dustbins – 5%

Each household unit is expected to pay a license fee of Rs 180/- and a recurring cost of Rs15 per month for a year in advance.

In Delhi only 4 sites have had in-situ upgrading programme. Slum and JJ Department initiated these in partnership with an NGO called ASHA. ASHA was responsible for engaging with the communities. The communities were included in the process of planning the services in the settlement. They moved into temporary shelters during the construction phase and were responsible for monitoring service delivery including provision of physical labour for the construction work. Over the years the NGO noted significant investment by the family members themselves in improving the quality of education.

Chapter 4

Resettlement Or On site Upgrading: The Debate

The debate on resettlement versus on site upgrading is as old as the process of urbanization, particularly the urbanization of poverty and slum growth. Arguments for and against depend on whether you are positioned in the administration or the NGO sector. Those in favour of resettlement believe that the economic value of the evacuated land is higher and that this option creates a Win-Win situation where the poor get alternate serviced land and get to live in good quality environments. Those against resettlement believe that resettlement distances people from their livelihoods and shocks them into poverty.

It has been difficult to resolve the argument because of lack of data on the impact of resettlement on changes in incomes, livelihoods and other socio- economic and cultural conditions of low-income households. While taking decision for resettlement, the planners and policy makers generally lay greater emphasis on estimating real costs incurred in land procurement and provision of basic urban services without estimating losses accruing to the household and city economy in the process of resettlement. On the other hand, resettlement through relocation of households to far away places in the city can trigger economic shocks and deepen vulnerability of the poor.

Underestimation of the contribution of slum dwellers to the city's economy and hence in any cost benefit analysis on resettlement, derives from their exclusion in the formal economic accounting systems. Most slum dwellers or the poor are part of the informal economy of cities, whose contribution has not been seriously examined by economists, indicative of the general fuzziness on the issue. Illegal residents in the city, the slum dwellers are invisible and lack voice in city level decision making.

In order to resolve the debate this study has collected data on a range of indicators to estimate the cost and benefits of resettlement on the poor households and on the city economy at large. This has been compared with costs and benefits of on site upgrading to compare the two strategies. The following tables present the findings of the study.

4.1 The Sample Households

Both qualitative and quantitative data was collected from the households. A sample of 60 households was selected for detailed household surveys in each selected site in both Delhi and Mumbai. However, demographic data was collected for a larger sample of about 1000 households in Delhi and

for 500 households in Mumbai using the PLA technique of household mapping. Reasons for taking a smaller number in Mumbai is because the total number of upgraded houses was fewer in number. The qualitative and quantitative data are being presented together.

Table 10: Total number of households in the study

	Delhi		Mumbai	
	Resettled Sites	Non Resettled Sites	Upgraded Sites	Non Upgraded sites
Households in the Survey	180	179	180	231
Households through Mapping	2482	2706	1144	999

Table 11: Demographic profile of sites in Delhi and Mumbai collected through Household Mapping

City	Type of Site	House holds	Adults		Children					
					0-5 years		(School going category)			
							6-14 years		15-17 years	
			M	F	M	F	M	F	M	F
Mumbai	Upgraded	1144	1832	1872	508	632	863	951	670	700
	Non upgraded	999	1457	1507	556	637	934	1024	744	906
Delhi	Resettled	2482	2955	2666	1733	1614	2719	1933	1370	1050
	Non-resettled	2706	3245	2828	1503	998	2600	1465	622	388

Table 12: Demographic profile of Households Surveyed in Delhi and Mumbai

	Delhi		Mumbai		Total
	Resettled Households	Non Resettled Households	Upgraded Households	Non Upgraded Households	
Households	180	179	180	231	770
Population	995	930	869	1190	3984
Male	546	525	444	639	2154
Female	449	405	425	551	1830
Children	475	529	243	388	1635

4.2 Sample Profile

Delhi

Three non-resettled and three resettlement sites were identified for the study in Delhi (Non-resettled sites: G point Gole Market, Yamuna Pushta and Indra camp Rohini. Resettled sites: Bakkarwala, Bhalaswa and Bawana). Households from G point Gole market had been resettled in Bakkarwalla, those from Yamuna pushta at Bawana and those from Indra Camp Rohini to Bhalaswa.

Of the three resettled sites, Bakkarwala resettlement was the most recent, only six months had elapsed at the time of data collection. Bhalaswa was the oldest resettled site where relocation happened about three years ago. Bawana was the intermediate site resettled about a year ago.

While Rohini-Bhalswa was closest in terms of distance, Yamuna Pushta-Bawana were the furthest part and G point Gole Market-Bakkarwalla were the intermediate group.

All three resettlement sites were large with households from several slum clusters having been moved here. For the purpose of this study, large slum clusters were identified as these were being shifted in a phased manner with some households having been resettled at the time of the study and others yet to be moved. This allowed a comparison between resettled communities and those remaining on the original sites, the assumption being that the latter would be closely matched for income and other characteristics.

1. a Resettlement Site: Bakkarwala (DA1)

Bakkarwala is located in the Nangloi constituency in the northern periphery of Delhi. Presently, it houses approximately 15000 families, which were moved here in February 2004. These families have been relocated from different pockets of South Delhi and Gole market area near Cannaught Place. The area of the resettlement site is 17.18 hectares.

Provisions for basic amenities in the area have been made by the MCD Slum Wing under the following broad categories, at an estimated cost of 16,37,39,200 including cost of land.

Fig 1 Resettlement area Bakkarwala

- Development works for peripheral services excluding electrification
- Interim arrangements for water supply, street lighting and toilets
- Maintenance of Services (currently planned for three years)

The land has been subdivided into approximately 4052 plots of 18 sq m or 12.5 sq m plots, roads and community facilities.

Approximately 3000 households had been relocated at the time of the study. Of these, nearly 60% families are living in temporary housing. Water supply is through hand pumps and tankers as part of interim supply arrangements. Community toilets have been provided in the area. However, both water and sanitation facilities have been a cause of concern for the relocated families. Despite being recently constructed, the community toilets are poorly maintained, forcing people to defecate in the open. Water supply is limited and provided through water tankers. It is unable to meet the water demand of people. People resort to use of hand pumps for supplementing water needs. Water from these is however, perceived to be unfit for drinking, cooking or even bathing.

Drainage network in the resettlement site is under construction. Residents have made their own interim arrangements for drainage of household wastewater. As a result, wastewater is flowing into vacant plots that are getting converted into shallow soak pits, creating unsanitary environment conditions and slummifying the environment. A government school is still under construction in the area.

1.b. Non-resettled Matching Site: Gole Market G Point (DB1)

Gole market is located in Central Delhi, close to the commercial center of Delhi, Cannaught Place. The entire slum settlement selected for the study is commonly known as G Point, Gole Market and spread over approximately 2 acres of land and presently has 870 families. G point Gole Market is surrounded by four market complexes, 3 hotels, residential quarters for central government employees, 4 private residential colonies, 17 schools, 2 post offices, 1 Government Hospital, 1 baraat ghar (Community Hall) and several other office complexes and banks. Its strategic location provides ample employment and livelihood opportunities and easy access to other social infrastructure facilities.

Historically, in 1911 ancient Imperial Government had leased out (perpetual) 10,000 hectares of said land for residential areas of the then class-IV government employees by Land & Development Office,

CPWD and Directorate of Estates till 2019 AD. At the time of independence, these hutments were vacated but were soon occupied by labor once redevelopment of the area began to take place.

Most earning members in the community are employed as carpenters, hawkers and masons. A few are also employed in government jobs. Almost 60% of houses here are semi permanent structures. The settlement has one community toilet. Covered drains have been built along all the streets in the settlement. The Delhi Jal Board has provided community stand posts at the end of each lane. In addition, hand pumps have also been provided in the area by the MCD.

2.a. Resettlement site: Bawana (DA2)

Bawana is located in North-west Delhi. The resettlement colony at Bawana was set up in April 2004. Several communities from Yamuna Pushta have been relocated to Bawana. It has a total population of approximately 1530 households with an average household size of 8-12 persons. Each family has been provided a plot 18 sq m in area.

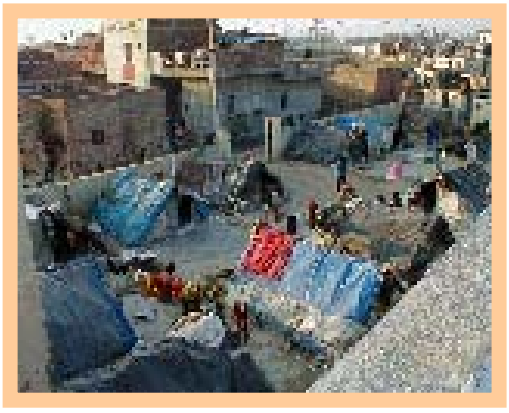

Fig 2 Resettlement Area Bawana

About 90% of families are still living in temporary shelters. Most men work as carpenters, construction workers and rickshaw pullers. A few of them also work as helpers in private offices or farmhouses. Only 10 % children were said to be school going, 30 % having dropped out of school and the balance approximately 60 % being non school going. The community in this resettlement colony is predominantly Muslim, with 40% Hindus. 90% of community is either scheduled caste or other backward classes or minority groups.

Water supply is provided through community taps, however many of them are non functional. Water is supplied three times a day. One community toilet has been provided for the community. Since the numbers are inadequate, long queues build up at the stand posts and toilets. Drains are still under construction and metered electricity has not yet been provided to homes. Private intermediaries are providing electricity through generators at a charge of Rs150 per month per family.

The MCD school building has been completed although no staff has yet joined. Navjyoti and Prayas, two NGOs have set up two Gali (non formal education) schools in the area. Since the school is yet to be made functional, children are sent to expensive private schools outside the settlement.

Livelihood options according to people around Bawana are very limited with no industrial units, fruit and vegetable markets, etc within a radius of 7-8 kms. There are no reported health facilities around the settlement. Also no ration cards have been made even after four months of relocation.

2.b. Non-resettled Matching Site: Yamuna Pushta (DB2)

Yamuna Pushta is located on the banks of river Yamuna near the ITO (Income Tax Office) in East Delhi. This slum area is huge and about fifteen to twenty years old. Prior to relocation, Yamuna Pusta was a large slum with several small clusters such as Kanchan Puri, Bela gaon, Kali Mata Mandir, Moolchand Basti etc. Majority of residents in this area are migrants from Uttar Pradesh and live in semi permanent or temporary shelters.

Yamuna Pushta had an internal economy of its own. Many livelihoods were based within the slum cluster itself such as shops that catered to needs of slum households, fruit, vegetable and other goods vendors. Relocation of the smaller clusters has had a negative impact on incomes and livelihoods of the community that is still left behind. Many of the schools run by NGOs and shops inside the cluster have shut down.

Presently no NGO is working in the settlement. One MCD School, about a kilometer and half from the settlement, caters to the schooling needs of the remaining children.

A community toilet and few community taps provided to the families still exist. Residents pay Rs 150 a month for the use of one bulb and a fan to a small-scale private operator.

Remaining households in Yamuna Pushta are living under a constant threat of eviction. Closure of schools by NGOs has led to many children dropping out of schools completely.

3.a. Resettlement Site: Bhalaswa (DA3)

Bhalsawa JJ colony is situated on the Northeastern edge of Delhi surrounded by an overused landfill site, Bhalsawa Dairy and a string of unauthorized colonies. The colony was set up in November 2000 when 526 slums were evicted from the Yamuna Pushta area and resettled in Bhalsawa. Within 14 months another 4000 families were moved to Bhalsawa from slum clusters located in areas as far flung as Garhi (East of Kailash), Jehangirpuri, Gopal Pur, Preet Vihar, Ashok Vihar, Seelam Pur, Teen Murti, Dakshin Puri, Rohini and Nizamuddeen. Bhalsawa, being one of the initial resettlement projects in the second wave of relocation in Delhi was established in 2001as a model resettlement colony.

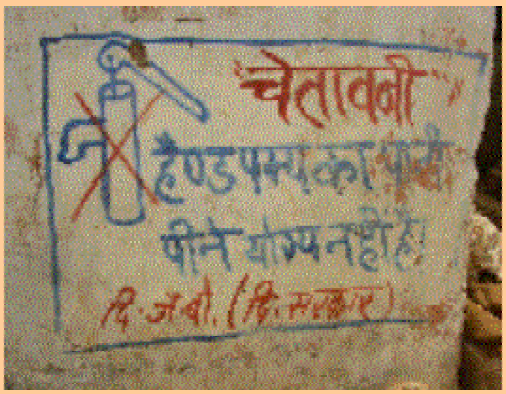

Fig 3 Water Quality concern at Bhalaswa

After the first round of relocation was complete, people found that they had been moves to virtually a barren piece of land with very few basic facilities. Water was a primary concern of residents here as only shallow hand pumps had been installed, water from which was unfit for drinking having been contaminated by toxins from the land fill site. People were dependent on a nearby Gurudwara for drinking water supply.

Three and a half years later Bhalaswa JJ colony continues to be at the margins of the water supply network both in terms of quantity as well as quality of water. Presently, the main sources of water supply in Bhalaswa are: hand pumps both installed by the MCD and privately owned, and government piped supplies through taps. Hand pumps promise 24 hours supply of water although this water is absolutely unfit for drinking, cooking or bathing. MCD hand pumps are equitably distributed within the colony. Piped supply through taps is available only in blocks A-2, A-3 and A-5 because of the presence of a powerful CBO called Bhalsawa Lok Shakti Manch associated with an NGO called Ankur. Chetanalya, Kirandeep and Mehak are some of the other NGOs working in the area.

Fig 4 Housing Scenario Bahlaswa

3.b. Non-resettled Matching Site: Indra Camp, Sector 3, Rohini (DB3)

Indra Camp Rohini came up in 1989 and currently has a population of approximately 3200 people. Nearly 60% of children here go to school. Most of the men in the community are employed as daily wageworkers, rickshaw drivers, carpenters and masons, whereas women work as domestic workers in sector 3, Rohini or as daily wage labor. Nearly all houses are semi permanent in nature with open and temporary drainage.

Water is provided to the community through six stand posts. Many households have tapped in to the mains for better accessibility to water supply services. No community toilets have been provided and the community defecates in the open. The community has also made illegal arrangements for getting electricity. A primary government school is close by where most of the younger children attend classes.

Nevertheless, this settlement is strategically located prom the point of employment. It is within a three km radius of a hospital, the Mangol puri Industrial area, two markets and a Middle Income residential colony at Rohini Sector 3 and Saraswati Vihar that offer ample employment opportunities for residents. Besides employment options in the neighborhood, the settlement has easy access, at a distance of 1.5-2kms, to the outer ring road, allowing people to be better connected to other parts of the city and jobs.

Mumbai

The three upgraded and non-upgraded sites selected for the study are located in Mulund (eastern suburb), Borivilli (western suburb) and Dharivi (Central Mumbai).

Fig 5 Location of selected sites in Mumbai

1. a. Non Upgraded Site: Rohidas Nagar Slum Colony, Walji Laddha Road, Mulund.

Rohidas Nagar Slum settlement in the eastern suburb of Mumbai is about 20 years old. There are around 350 to 400 families living in semi permanent hutments made from tin and plastic here. Most residents in this area are daily wagers and primarily employed as sweepers. Women work as domestic workers in nearby residential colonies.

1. b. Upgraded Site: Rohidas Nagar Sri Sai Shradhha Cooperative Society, Mulund

Sri Sai Shraddha cooperative society houses about 350 slum families. Residents here are employed in the nearby fruit market as labour, or work in cloth mills or have private jobs. Most families are Hindus from other parts of Maharashtra, Uttar Pradesh and Bihar. The housing society is located within a 2 km range of a government school and the local railway station, making it well connected. Since there has been no change in the location of their residential area people continue to use the same amenities and facilities for their daily needs.

2. a. Non-upgraded site: Rajaram Chawl Slum, Nutan Nagar

Rajaram chawl is located in Nutan Nagar, Borivilli, and a suburb of Mumbai West with approximately 250-300 households, the oldest having settled here about 15-20 years back. Although most residents of the Chawl have been resettled under the SRA scheme, some households are still living in a make shift transit camp close to the upgraded site, awaiting completion of the new building.

The community here comprises Hindus primarily from Maharashtra. Approximately 30% population is from Uttar Pradesh. While women work as domestic helpers in distant and neighboring areas, men

from the community work as labour in the fruit markets, and as factory workers in the manufacturing units and cloth mills. Average household income is Rs.1500 per month.

About 150 households have already been upgraded at new housing constructed in Nutan Nagar located just 2 kms away from the local rail station and 200m away from a hospital, making transportation and health services easily accessible. Small and large markets for household goods are also accessible within a 5 km range. A Government higher secondary school is a five minutes walk from the settlement.

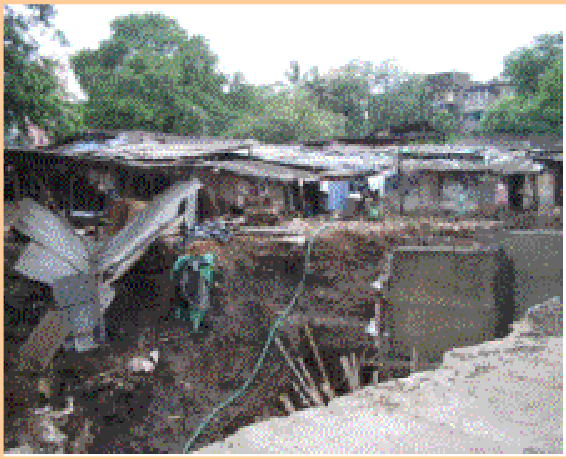

Fig 6 Rajaram Chawl beyond new boundary line

2. b. Upgraded Site: Sai Darshan Society

Sai Darshan society has been developed on 1000 sq m of land and houses nearly 150-160 families of Rajaram Chawl slum. Presently there are three buildings in the complex. Sai Darshan Society is part of a larger complex constructed by one of the developers under the SRA scheme. The society shares space with other housing societies that will be put on sale by the developer for a profit.

The upgraded families continue to access the same facilities as they used to prior to the upgrading.

Fig 7 Housing complex designed by builder on slum plot

Fig 8 Nutan Nagar: Housing under SRA

Fig 9 One room flats provided to slum dwellers.

Each family has been provided a one-room flat measuring 225 sq m with attached toilets. Children of most families continue to attend the same schools and people are pursuing old livelihoods.

3. a. Non upgraded Site: Saibaba Nagar Slum colony, 90 ft road, Dharavi.

Saibaba Nagar slum began about 30 years ago. It is located along the main road of Dharavi in the heart of Mumbai. This settlement comprises around 400 families, of which about 200 families have been resettled. The remaining residents mainly comprise migrants from other parts of Maharashtra, Tamil Nadu, Kerala, Uttar Pardesh and Bihar. Many families belong to the SC/ST group. Population of the area is predominantly Muslim with nearly 70per cent engaged in small-scale home based activities such as embroidery, leather good manufacture, and three wheeler drivers.

3. b. Upgraded Site: Vallabh Housing society,Shivneri Housing Society, 90 ft road, Dharavi

Vallbh Housing Society and Shivneri Housing Society are two resettlement schemes developed by private contractors under the SRA scheme. These housing societies have been constructed in the same location as the slums. They house approximately 470 families. Majority of families here are Hindus coming from different parts of India with most employed in private jobs or as labour.

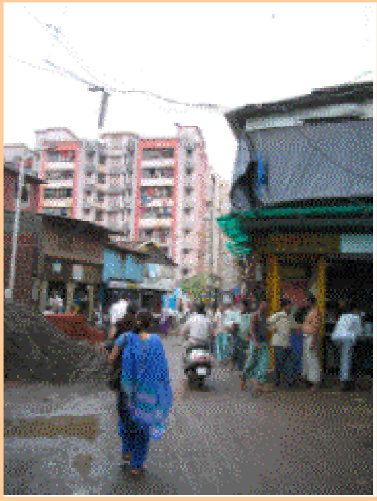

Fig 10 90ft road of Dharavi

Fig 11 One-room apartments with wide corridors

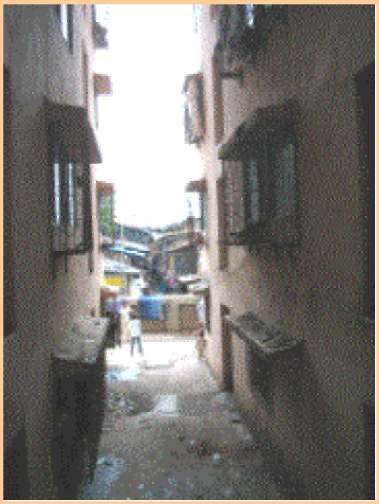

Fig 12 Rehabilitated buildings and slums in the background.

Chapter 5
Measuring Impact on Affected Population:

5.1 Changes in Income

Household Income

Resettlement or on site upgrading is expected to have an immediate and direct effect on livelihoods and incomes of affected households.

Table 13: Changes in average monthly household income of settlements in (Rs/month)

Monthly Household Income				
Delhi			Mumbai	
Resettled Households		Non Resettled Households	Upgraded Households	Non Upgraded Households
After Relocation (Current)	Before relocation	Monthly household Income (Current)	Monthly household income After upgrading (current)	Monthly household income (Current)
4184.44	4390.56	4189.11	5543	5011

Variation income is derived from three parameters; household income, income of earning members and per capita income.

Data from the survey has indicated that average household income in Delhi had decreased by over Rs200 per month following resettlement. (Table 13)

A surprising finding was the decline in income in the matched non-relocated sites. Incomes in the non-resettled sites were found to be only marginally higher than the current income in the resettled households. A probe into possible reason for this decline indicated that this was primarily because families left behind in the matched sites were either the poorest (renters or people who did not opt for the resettlement because they lacked finances to pay costs for land to the Slum Wing) or dependent on the internal economy of the settlement. With large scale shifting, these households experienced an economic shock as well.

In Mumbai, average household income of upgraded (resettled) sites at Rs.5543 per month was 10.61 per cent higher than the average household income of non-upgraded sites. Upgraded households that stay within the same area are not only able to continue with their livelihoods, but experience income rises attributed to their shelter security.

Per capita Income

The per capita income of relocated sites in Delhi estimated at Rs.748.18 per month had declined following resettlement by Rs31.55p from the previous earnings and by nearly twice that amount (Rs74.02p) from the matched sites.

Table 14: Changes in per capita monthly income of settlements (Rs/month)

PER CAPITA MONTHLY INCOME				
Delhi			Mumbai	
Resettled Households		Non Resettled Households	Upgraded Households	Non Upgraded Households
After Relocation	Before Relocation	(Current)	(Current)	(Current)
748.18	779.73	828.20	1148	973

In Mumbai, the difference in per capita income of upgraded sites versus the non-upgraded sites was Rs 175, a huge jump in the income following upgrading. Rise in income ranged between Rs 121 in Dharavi and Rs 310 in Mulund. (Table 14)

In Delhi, all sample sites except for Yamuna Pusta a non-relocated site, demonstrated the trend of declining per capita income. While in Bakarawala (DA1) the per capita income change as compared to the non-resettled and pre resettlement income was nearly Rs220. In the Bhalswa relocated site (DA3) the per capita income gap was approximately Rs135 when compared with the non-relocated site in Rohini as well as previous reported income. On the other hand in the third site (Yamuna Pushta and Bawana), the per capita incomes in the matched sites dropped by Rs 121.70p and Rs 203.16p when compared with incomes following resettlement and the previous incomes. (Annexure III)

A close look at the Yamuna Pushta situation reveals that the employment and income earning activities had been affected due to the changes in the demographic pattern of these areas as a result of relocation of large number of population to far away places. Many income generation activities had become redundant or fragmented suggesting again that relocation had disturbed both per capita incomes of resettled families as well as those that had remained behind in the non- relocated sites. Further investigation on the various socio cultural parameters strongly supports this argument.

Earning Members

There was a marginal decline in the number of earning members in the relocated sites in Delhi, when compared to the non-relocated sites by 1.5 per cent. In contrast, in Mumbai, number of earning members rose by 0.39 per cent from 32.77 per cent to 33.26 per cent in the upgraded sites.

In other words, while in Delhi, where households were relocated to far away places, share of earning members to population showed a decreasing share, in Mumbai, where the households had been resettled through on site upgrading, the share of earning members showed a marginal increase in share.

While the survey data shows a marginal increase in number of earning members in the households, the household mapping of the entire settlement presents a different picture. Gap between earning members in non-upgraded sites vis-à-vis upgraded sites was 9 percentage points indicating that more members in the non-upgraded families were employed. While this is indicative of the increasing level of inequality between the two types of sites, it is also suggestive of the fact that as household conditions improve, number of members required to work to meet household expenses may actually go down. (Table15)

Table 15: Earning Members of selected sites in Delhi and Mumbai from Survey

	Number of Earning Members			
	Delhi		Mumbai	
	Resettled Households	Non Resettled Households	Upgraded Households	Non Upgraded Households
Total Earning Members	288 (28.90)	275 (29.50)	289 (33.26)	390 (32.77)
Male	246 (45.00)	230 (43.80)	239 (53.83)	329 (51.49)

	39	45	50	61
Female	(8.6)	(11.10)	(11.76)	(11.07)

Note: Figures in parenthesis shows the percentage share to the corresponding population.

As explained in the figure below, a gender analysis shows a drop in the share of female workers in the resettled sites of Delhi by 2.5 per cent whereas in Mumbai the share of female workers to their population in upgraded settlements was up by 0.7 per cent suggesting that relocation has resulted in loss of employment for female workers. This has been confirmed by reports from focus group discussions and other qualitative tools where women indicated that they had stopped working because of the following reasons:

- Lack of suitable employment in the neighborhood of the resettled sites. Most women were skilled in domestic work and the new sites did not provide that employment opportunity.
- Lack of skills to engage in the livelihood options available in the neighborhood. More technical skills were in demand in the industries and factories surrounding the resettled sites.
- Distance to old work sites added to high transport costs making it non viable to continue with old livelihoods.
- Lack of social safety nets due to loss of social capital through resettlement because of which women could not leave young children or houses unattended.

Unemployment among women as a result of relocation is thus aggravated following resettlement. However, as indicated in Mumbai, upgrading has actually increased contribution of women in the city economy.

5.2 Change in Household and Production Assets

Two types of assets were reported in the study. These included assets of production and assets that show improved economic conditions of households.

Ownership of household assets has changed following relocation in Delhi. Economic pressure due to relocation (payment for plot, shifting and house construction) has forced many households to sell assets.

Table 16: Change in Household Assets using Household Mapping

Cities	Type of Site	Assets		
		TV	Fridge	Washing Machine
Mumbai	Upgraded Sites	956 (83.57)	389 (34.00)	119 (10.40)
	Non upgraded	795 (79.58)	300 (30.03)	157 (15.72)
Delhi	Resettled	604 (24.33)	65 (2.61)	8 (0.32)
	Non resettled	1287 (47.56)	210 (7.76)	23 (0.84)

Figures in Parenthesis indicate percentages

In Mumbai, all upgraded households show increased ownership of assets when compared with non-upgraded sites through both the household mapping and survey data. While majority of assets owned by people were those that reduced household drudgery for women such as TV, Fridge and washing machines, almost 15 percent households also reported ownership of three wheelers, an asset of production.

In Delhi, however ownership of household assets was seen to have dropped by over 50 percent in case of TVs, three wheelers and washing machines and by two thirds with regard to refrigerators.

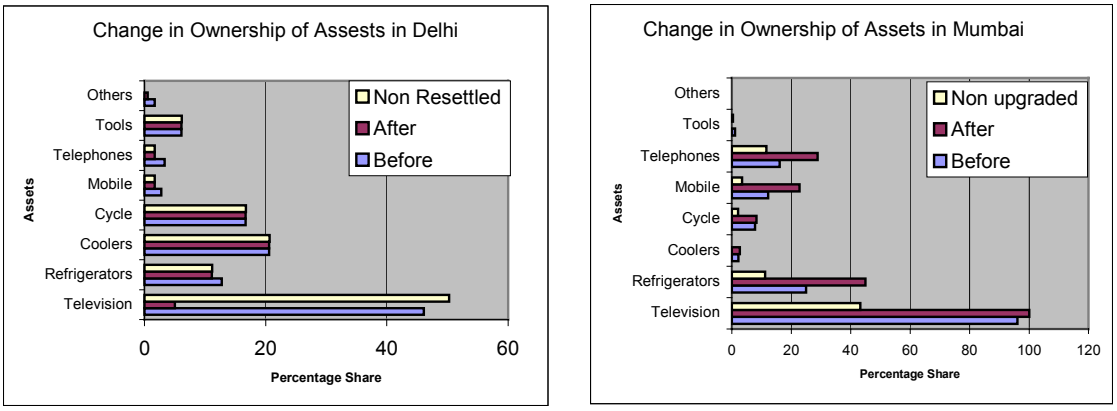

Fig 13 Change in Ownership of Assets in Mumbai and Delhi by HH Survey

Table 17: Change in Ownership of Tools of Production

	Delhi			Mumbai		
	Before	**After**	**Non Resettled**	**Before**	**After**	**Non Upgraded**
Auto Rickshaw	2 (1.11)	2 (1.11)	1 (0.56)	6 (3.33)	6 (3.33)	2 (0.87)
Cycle Rickshaw	8 (4.44)	5 (2.78)	10 (5.50)	2 (1.11)	3 (1.67)	2 (0.87)
Computer	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	3 (1.67)	0 (0.00)
Carts (Rheri)	14 (7.78)	9 (5.00)	6 (3.35)	1 (0.56)	1 (0.56)	0 (0.00)
Shop	7 (3.89)	5 (2.78)	4 (2.23)	11 (6.11)	12 (6.67)	4 (1.73)

Figures in Parenthesis indicate percentages

The trend vis-à-vis household assets persisted in the case of ownership of assets of production. There was a drop in ownership of cycle rickshaws, carts, shops etc. in Delhi. On the other hand in Mumbai ownership of assets increased, in particular of computers and auto rickshaws with regard to non-upgraded sites.

5.3 Change in Housing Ownership

A key change expected was in ownership of house. In Mumbai the gap between owned and not owned houses was nearly 16 percent following the upgrading. In Delhi this gap was about 14%.

Slum dwellers in Delhi who have benefited from the resettlement were already owners of the house even though it was on illegally occupied land. Security of tenure offered through resettlement was not sufficient enough condition for poverty reduction in view of the increase in livelihood displacement following relocation.

Table 18: Change in Housing Ownership using Household Mapping Data

City	Type of site	Ownership %		
		Owned	Rented	Others/relatives
Mumbai	Upgraded	92.0	6.0	1.0
	Non Upgraded	76	5.9	2.0
Delhi	Resettled	79.5	16.5	3.7
	Non-resettled	66.0	11.8	1.0

5.4 Distance to work place for Earning Members

Since distance to work sites following resettlement was seen to be a major factor in livelihood sustainability, its effect was measured by comparing changes in income using distance to resettled site as a parameter. Also the effect of resettlement on household spend on transportation was estimated.

The analysis on distance to work place for earning members was done only for the relocated sites Delhi with far site relocation. In Mumbai, for upgraded sites, the analysis was irrelevant.

Nearly 62 percent earning members in the resettled sites experienced an increase in distance to work destination following relocation. While 23 percent indicated that there had been no change, approximately 15 percent suggested that the distance to work place had in fact reduced. Further investigations revealed that this was because many of the workers were self employed and depended on the local economy such as hawkers, vegetable vendors etc. Sustaining their previous livelihoods, these households did not experience any change. For some others who were earlier going out to work, a shift in the nature of livelihoods from non-local to local economy was reason for their experiencing such a decline.

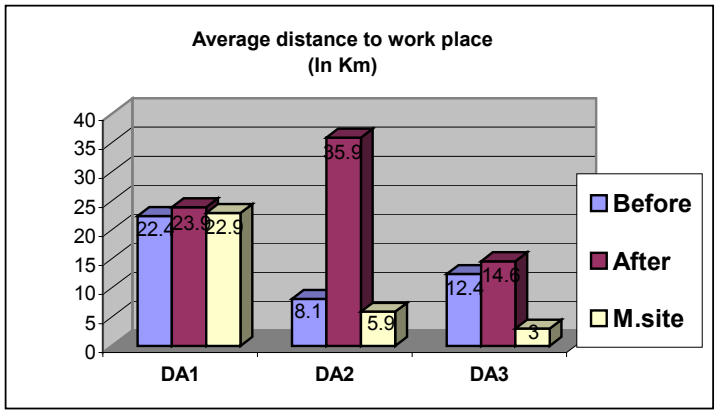

Fig 14 Average Distance to Work Place from HH Survey Delhi

Bawana experienced the maximum increase in distance between old and new sites followed by Bakerwala, with Bhalaswa being closest to the old site. The average increase in distance to work place was 10.6 km.

On an average, distances traveled to and from work in Bawana increased more than four times from an average of 8.1 km to 35.9 km. In the matching non-relocated site at Yamuna Pushta, the distance to work place was only 5.3 km. For Bakarwala, the average distance to work place increased by nearly 1.5km. In Bhalswa, the average distance to work place increased by just about 2 km, a decrease of 1km from the old site in Rohini.

Across the three sites, in Bakarwala, 51 per cent earning members traveled more after relocation . In Bawana, the figure was 82 per cent and in Bhalswa, 47 per cent as shown in the figure below .

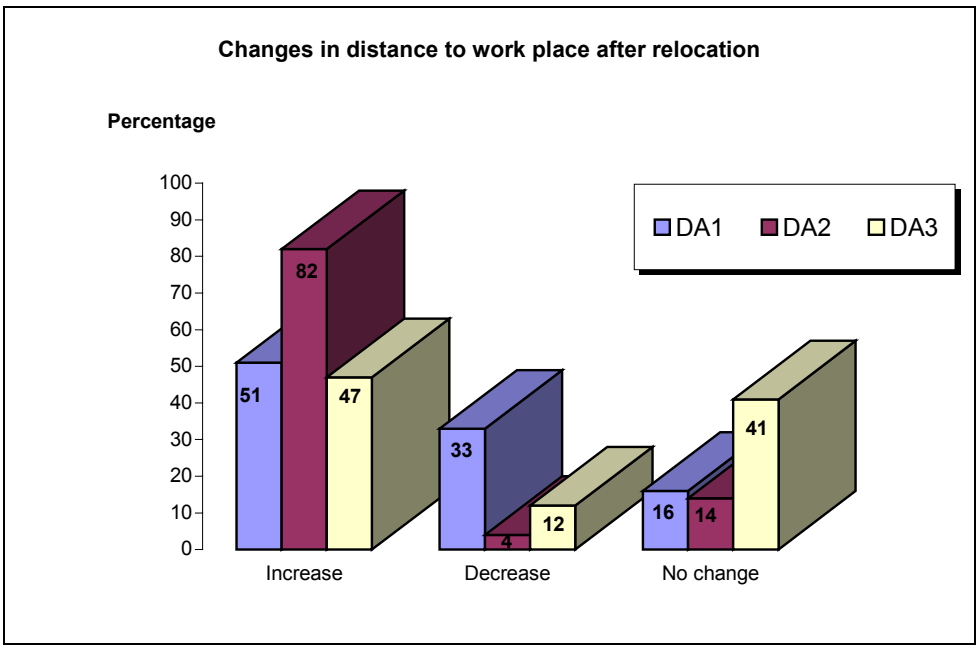

Fig 15 Changes in distance to work place after relocation

A visible change in the mode of transport used for getting to and from work changed following relocation as was noted in the study. While prior to relocation, a significant proportion of people traveled on foot to their work places (25%), in the relocated sites majority of earning members used the local bus to get to work (75.9%) (Annexure VI). Use of public transport and cycle rickshaws to get to work and back increased by over 28 percent and 10 percent respectively following resettlement. Use of auto rickshaws, personal transport such as cycles etc. and travel by foot for work on the other hand, declined. In particular, walking to work places declined by nearly 16 percent.

Distance between Bawana and its pre-relocated site Yamuna Pushta was the longest (35kms). Over 91 percent earning members in this settlement had to travel by local bus to get to work. Prior to relocation, this number was less than half (41.25%). Bhalswa, closest among all the three resettled sites, had 63.86 percent earning members traveling to work by public transport, an increase of about 21 per cent. Bakarawala, which fell in between the two relocated sites in terms of distance, 71 per cent earning members traveled by local bus vis-à-vis 57.35 percent prior to relocation.

In contrast, percentage walking to work reduced from 39.02 per cent to 14.46 per cent for Bhalaswa, 12.5 percent to 3.57 per cent in Bawana and 36.76 per cent to 23.19 percent in Bakarwala.

A back of the envelope calculation of average costs for all households on travel by bus suggests that total increase in daily costs for 134 households will be Rs938[52] (This cost is arrived at by multiplying the current bus fares for the increased average distance by total number of earning members experiencing increased travel 134x Rs7).

Besides increases in cost of transportation, distance to work site has implications in terms of time. With increases in traveling time, poor who depend on daily wage labour will have reduced productivity. Besides, the poor transportation facilities in the relocated sites would aggravate the situation.

In order to delve deeper into livelihood issues in case of relocated households in Delhi, livelihood matrices were developed for the relocated and non-relocated sites. While data for two sets is presented in the Annexure XI analysis for Bawana and Yamuna Pushta is presented here.

	Mandi	Grain Mandi	Factory	Manufacturing Units	Farm house
Conveyance	4	2	1	5	3
Opportunities	4	3	1	2	5
Skill	5	5	3	2	1
Expenditure on travel	4	5	4	3	1
Time	5	4	5	3	1

Fig 16 Matrix ranking on Livelihood Options – Bawana.

Figures in columns are ranks based on most common livelihood

	Rickshaw	Vegetable head load carrying	Shop	Private Jobs	Government Jobs
Conveyance	5	5	5	3	1
Opportunities	5	4	3	2	1
Skill	5	5	3	2	1
Expenditure on travel	5	2	5	2	1
Time	5	4	5	2	1

Fig 17 Matrix ranking on Livelihood Options – Yamuna Pushta

Figures in columns are ranks based on most common livelihood

Livelihood opportunities in Bawana changed dramatically when compared to the original site of Yamuna Pushta. While at Yamuna Pushta, households were engaged primarily in rickshaw pulling vegetable vending, petty shop keeping, with only few households in regular private and government jobs, livelihood opportunities around Bawana were primarily related to manufacturing in the several factories in the Bawana industrial area. Very few members of the relocated households however possessed the required skills for working in these industries suggesting a mismatch between people's skills and livelihood opportunities. Most people in Bawana were therefore opting for jobs in the vegetable and grain mandi, which may have had an impact on their incomes. These options may have also been deemed the most suitable as the time taken in traveling to work is the least in this case.

The livelihood matrices also indicated that time taken in travel for employment had increased in the three relocated sites of Delhi in comparison to the non-relocated sites (Annexure: XI). A common coping strategy of the poor as mentioned during discussion with community members to meet the additional travel time and costs was for earning members to stay on the pavements, at railway stations or in other rented huts for the week and to return home on weekends or days when markets were closed. Poor availability of conveyance at any time of the day, long hours of waiting for buses and poor frequency of buses has also forced earning members to stay away from their families through out the week.

5.5 Change in Nature of Employment

Data from the survey corroborated the trends seen in household mapping. Full time employment among earning members dropped significantly, with nearly one-third less full time employees in the resettled sites as compared to the non-resettled sites. A small percentage of people even lost their jobs following the resettlement.

In comparison, in Mumbai, full time employment increased by almost 40 percent.

Table 19: Nature of Employment by Earning Members for Delhi and Mumbai (Household survey)

Delhi	Number of Earning Members			
	Seasonal	Daily Wage	Full time	Lost job
Non-resettled	10	83	319	0
Resettled	14	54	214	3

Mumbai	Number of Earning Members			
	Seasonal	Daily Wage	Full time	Lost job
Upgraded	2	14	404	0
Not Upgraded	0	17	250	0

A detailed analysis of employment in the two cities was made from the survey data. In Mumbai, 64 per cent workers in upgraded sites were found to be doing private job. About 15 percent were self-employed and 10 per cent were in government jobs. Daily wages workers constituted about 9 per cent of the total workers. Data shows that there has been no change in occupational categories after resettlement to upgraded sites. In the non-upgraded sites, share in private employment and formal government employment is up by nearly 25 percent and 6 percent respectively. Daily wage employment dropped sharply, by almost 18 percent.

Table 20: Percentage of workers in different jobs in upgraded and non-upgraded sites in Mumbai and Delhi (HH Survey)

Occupation	Code	Mumbai		Delhi		
		Upgraded Sites	Non Upgraded Sites	Relocated Site		Non-relocated Site
		TOTAL	TOTAL	Before	After	TOTAL
Other	0	0.00	0.17	1.08	1.06	0.00
Govt.Job	1	9.76	3.83	1.80	1.77	4.00
Pvt.Job	2	64.31	41.99	27.70	27.56	21.09
Self Employed	3	15.15	23.87	21.94	21.20	12.00
Daily wage worker	4	8.75	26.66	42.45	43.11	50.55
Domestic worker	5	1.35	1.39	3.24	3.53	7.64
Factory Worker	6	0.67	2.09	1.80	1.77	4.73
ALL		100.00	100.00	100.00	100.00	100.00

In the relocated sites in Delhi, share of self-employed workers doubled after resettlement. Although the share of employees in private sector jobs increased in comparison to non-resettled areas, it actually declined when compared to pre relocation data. Daily wage employment share when compared to non-resettled areas was less by about 6 percent, but nearly the same when compared with pre relocated sites.

Upgrading thus helps in not jut improving incomes but also type of employment from ad hoc to regular.

5.6 Gender analysis of employment Patterns

Nature of work

An analysis of employment patterns by gender has been undertaken here.

Table 21: Gender Analysis: Occupational pattern of settlements in Delhi (Percent)

OCCUPATION CATEGORY	CODE	RELOCATED SITES						NON RELOCATED SITES		
		Before Relocation			After Relocation			Current		
		TOTAL*	MALE%	FEMALE%	TOTAL*	MALE%	FEMALE%	TOTAL*	MALE%	FEMALE%
Other	0	3	0.00	100.00	3	0.00	100.00	0	0	0
Govt.Job	1	5	80.00	20.00	5	80.00	20.00	11	90.91	9.09
Pvt.Job	2	77	85.71	14.29	78	85.90	14.10	58	93.10	6.90
Self Employed	3	61	91.80	8.20	60	88.33	11.67	33	90.91	12.12
Daily wage worker	4	118	88.14	11.86	122	87.70	12.30	139	86.33	13.67
Domestic worker	5	9	66.67	33.33	10	70.00	30.00	21	23.81	76.19
Factory Worker	6	5	80.00	20.00	5	80.00	20.00	13	92.31	7.69
ALL	**TOTAL**	**100**	**86.33**	**13.67**	**100**	**85.51**	**14.49**	**100**	**84.00**	**16.36**

* Numbers reported data

As mentioned earlier, the relocated sites in Delhi showed a decline in the share of women employed to their population as compared to the non-relocated sites from 16.36 per cent to 14.49 per cent.

Most women prior to relocation were engaged as domestic helpers. While domestic work has declined, self-employment and daily wage work for women has increased (Table 21). In the non-relocated sites, the percentage of women engaged in domestic work as opposed to government and private jobs was much higher. It is difficult to say whether this could be the result of vacancies in domestic help positions following relocation that were filled up by wom

en left behind in the non-relocated sites. In all other categories, there is an increase in the female work participation rate when compared with non-relocated sites.

Table 21a: Percentage of male and female workers in each job categories in upgraded and non-upgraded sites in Mumbai

Occupation Category	Code	Upgraded sites						Non upgraded sites		
		Before			After			Current		
		Total *	Male %	Female%	Total*	Male	Female	Total*	Male	Female
Other	0	0	0.00	0.00	0	0.00	0.00	1	100.00	0.00
Govt.Job	1	29	96.55	3.45	29	96.55	3.45	22	90.91	9.09
Pvt.Job	2	191	80.10	19.90	191	80.10	19.90	241	90.04	10.37
Self Employed	3	45	97.78	2.22	45	97.78	2.22	137	94.89	5.11
Daily wage worker	4	26	69.23	30.77	26	69.23	30.77	153	86.27	13.73
Domestic worker	5	4	25.00	75.00	4	25.00	75.00	8	62.50	37.50
Factory Worker	6	2	100.00	0.00	2	100.00	0.00	12	91.67	8.33
ALL		297	82.83	17.17	297	82.83	17.17	574	89.90	10.28

* Numbers reported data

In Mumbai share of female workers was seen to have increased from 10 percent to over 17 percent between the non-upgraded and upgraded areas. Main increase in share of employment was seen in domestic work, followed by daily wage and private sector employment respectively.

5.7 Changes in House hold Expenditure

A second measure of change resulting from resettlement or upgrading was expected on household expenditure patterns.

Average monthly household expenditure has shown an increase following resettlement /upgrading in the two cities. While in Delhi, the average monthly household expenditure has increased between Rs 218 and Rs 138 per month when compared with matched sites/ pre relocation expenses in Mumbai, the increase was considerably higher at Rs.843 and Rs966 per month when compared with non-upgraded sites/ pre upgrading.

Table 22: Changes in Average Monthly Household Expenditure (Rs/ month)

	Monthly Expenditure		Monthly Expenditure
	Before Relocation	After Relocation (Current)	Non-Relocated Sites / Non-Upgraded Sites (Current)
Delhi	3591	3729	3511
Mumbai	4738	5581	4615

Note: The above estimates do not include interest payments to loans and borrowings

While both Bhalaswa and Bawana households show a rise in their household expenditure, in Bakarwala the average household expenditure is marginally lower than in the non-relocated site in Gole Market. (Annexure IV)

Data from Mumbai shows higher household expenditures in all three non-upgraded sites, although the rise was least for Dharavi. This was confirmed during the FGDs where people indicated that improved housing had led to gentrification and rising expectations from neighbors and relatives who expected to be entertained better.

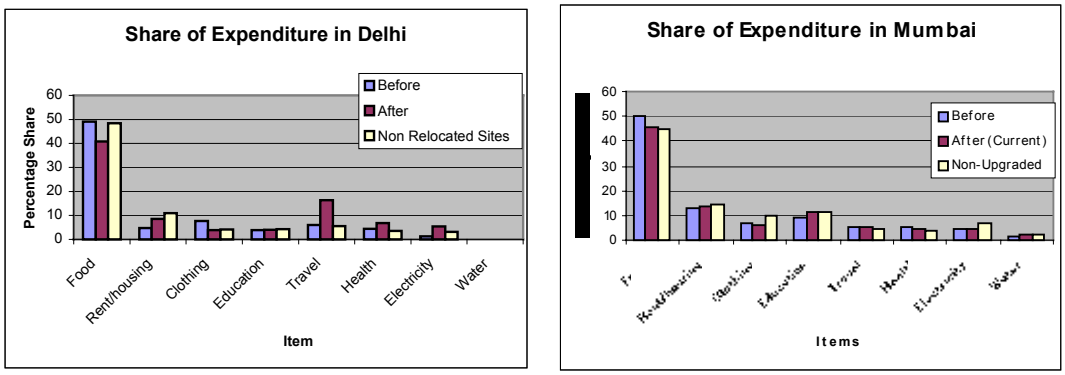

Fig 18 Share of Expenditure in Delhi and Mumbai through HH survey

In order to understand the expenditure trends the data was disaggregated by items of expenditure in the relocated, upgraded and matched sites.

In Mumbai, household expenditure pattern of selected items does not show any significant changes between upgraded and non-upgraded sites.

In Delhi, relocation has resulted in significant changes in household expenditure patterns. While expenditure on food, clothing, entertainment, festivals and others has reduced, that on housing, travel, education, health, electricity, has gone up. Changes in expenditures on travel, health and user charges for electricity are significantly higher. On the other hand the family has experienced a significant decline of nearly 9 percent in the household food bill.

This situation is probably the result of a decrease in the amount of disposable income for relocated households after resettlement. Even if incomes have not changed significantly, additional expenditure on travel and health etc. has forced families to reduce consumption in other items, such as food, education, clothing, etc. Relocation has thus resulted in several invisible costs to families. These costs are often underestimated or ignored by city planners and policy makers opting for relocation as a viable option of resettlement strategy.

Interestingly, while food expenditure in Delhi has dropped by nearly Rs250 per household that in the upgraded sites in Mumbai has increased by over Rs200 over their past expenditure and nearly twice that amount when compared to the non upgraded sites. In Mumbai households are also spending more on education and entertainment.

When incomes decline, families have two options before them. First is to reduce household expenditure. Since expenditure on many vital items such as food among the poor households is already low, further reduction would lead to increased malnutrition and diseases. Malnourishment in turn will reduce availability of days for work.

Second option for the households is to meet the income deficit through borrowing. In most cases, poor borrow from moneylenders at high interest rates. With poor assets and depleted savings, households slip into debt traps. It is also important to note that low income households have to pay for each and every service the city provides, mostly to access these services illegally, eventually paying more to intermediaries than the government.

Table 23: Changes in additional household expenditure on select items in Delhi and Mumbai

Item	Additional expenditure after relocation Amount in Rs			
	Delhi		Mumbai	
	Changes compared with pre-relocation expenditure	Changes with respect to non-relocated sites	Changes compared with pre-upgraded expenditure	Changes with respect to non-upgraded sites
Food	-237.53	-248.04	175	483
Rent/housing	111.11	-107.26	170	97
Clothing	-152.31	7.01	18	-100
Education	5.29	4.34	226	104
Travel	428.09	456.86	24	69
Health	109.25	155.76	-2	51
Electricity	135.34	86.09	65	-37
Water	0.00	0.00	41	20
Entertainment	-0.79	-40.77	125*	278*
Festivals	-75.55	145.30		
Others	-185.26	-241.72		
Total	137.70	217.58	843	966

* Data has been combined for entertainment, festivals and others

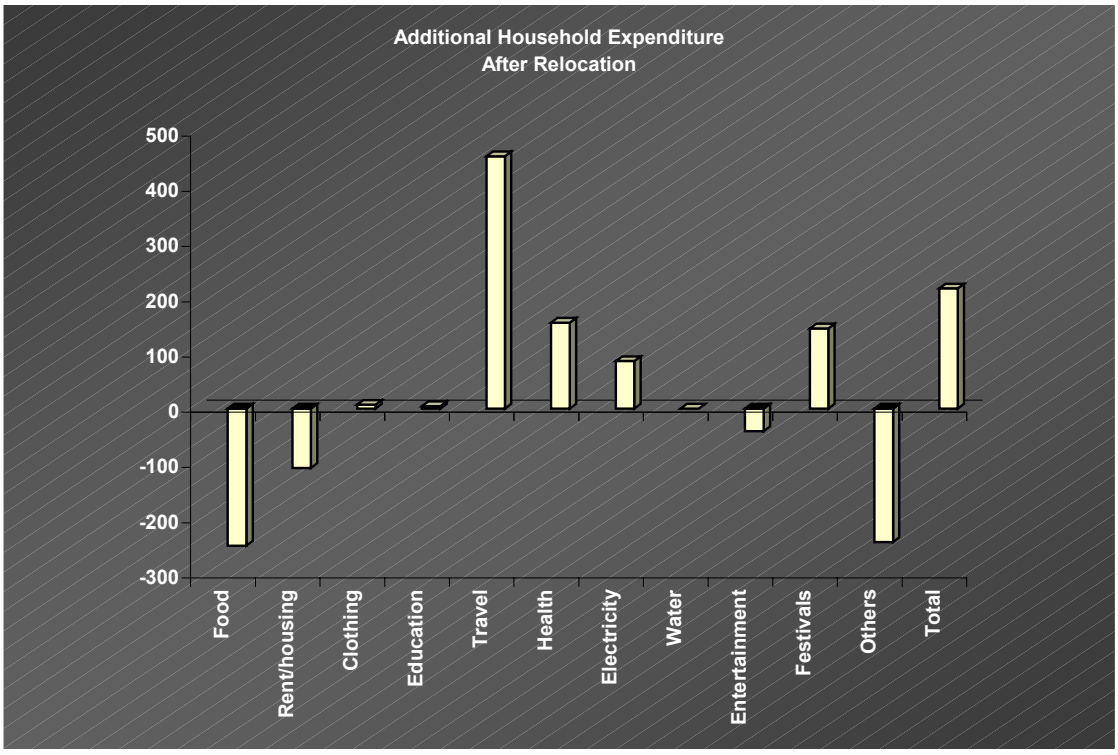

Fig 19 Additional Household Expenditure After Relocation for Delhi

Expenditure on Travel

Since far site relocation was expected to have led to an increase in travel costs for the poor, in particular as slums generally come into being on sites close to economic opportunities, in this case these were informal livelihoods, it was decided to examine this in greater detail for Delhi.

Share of travel cost to household expenditure in relocated sites was 16.37 per cent, an increase of over 11percent as compared to the non-relocated sites and 10 percent when compared with the previous household expenditure on travel. (Table 24)

Across the three different sites, maximum increase was seen in Bawana (the farthest to the original site), followed by Bakarwala and Bhalaswa.

Table 24: Share of travel cost to the total household expenditure in selected sites in Delhi

	Share (%)		**Non-relocated**	
Relocated sites	**Before relocation**	**After Relocation**	**Sites**	**Share (%)**
BakrawalaDA1	5.85	13.3	Gole Market (DB1)	6.86
Bawana DA2	8.76	25.26	Yamuna Pusta (DB2)	4.31
Bhalaswa DA3	3.5	10.54	Rohini(DB3)	5.56
ALL	**6.04**	**16.37**	**ALL**	**5.58**

Cost of additional travel each household has to bear per month has been estimated at **Rs.428.09**. This amount was estimated by analyzing the household expenditure pattern of relocated sites and that of non-relocated sites and also taking into account expenditure before and after relocation.

Expenditure on Health

On the other hand, relocation was expected to result in reduced health expenditure due to improved environments.

Health expenditure for relocated households was estimated at **Rs.109.25 per month** for a single relocated household in Delhi. This is an average estimate and has been worked out by taking into account the expenditure on health before and after relocation of sites and also the same in the corresponding non-relocated sites.

However, there appears to have been an increase in rather than a decrease in health costs following the resettlement. This could be attributed to the fact that the water and sanitation services continue to be inadequate in these areas despite promises to the contrary. Illness due to poor quality of water supply was common, especially in Bawana where ground water was highly contaminated. Rise in health costs was in spite of people's satisfaction with regard to the public health services in these areas, which were less crowded, more accessible and had more sensitive staff.

5.8 Impact on Social Safety Nets

Impact of relocation was measured on changes in social safety nets. The following parameters were used to make the analysis: membership of social groups, savings, and access to credit.

Membership of Social Groups

Table 25: Membership of Social Groups

		Member of Community groups AR	Member of thrift & credit society	Involvement with NGO	Involvement with political groups AR	Any other associations	Total Members
Delhi	**Resettled**	0	1	2	9	5	17 (9.4)
	Non resettled	2	9	1	27	7	46 (26)
Mumbai	**Upgraded***	18	14	0	1	0	33 (14.28)
	Non Upgraded	70	19	0	1	1	91 (50.5)

(Numbers reporting membership in household survey)

* Membership other than in the cooperative society

Data from the survey clearly indicates a dissipation of the community social capital following relocation in Delhi. Membership of associations declined from 26 percent in non-relocated sites to merely 9.4 percent.

In Mumbai, the social capital not only remained intact, but also improved due to the fact that they were organized into cooperatives to enable upgrading. Apart from housing cooperatives, however, membership of other community groups declined in the upgraded areas. In the non-upgraded sites, community organizations continued to exist in anticipation of upgrading.

Erosion of social capital was further evidenced from the level of insecurity and reported thefts during focus group discussion with the communities. Percentage of households feeling insecure in the new surroundings increased from a mere 2-3 percent in the pre relocated and matched sites to nearly 40 percent after relocation. Reported increase in thefts was from 6 to 22 percent. Since bus stops were far from the community, people were often robbed while returning from work (Annexure IX) Women expressed reluctance to leave their children alone at home or even leave the house unattended for fear of a robbery.

Effect on Savings

Impact on savings was measured for both relocated and upgraded sites. The analysis of household savings in the relocated households by taking into account the information on before and after relocation as well as that of non-relocated sites has provided valuable estimates. The cost of relocation in terms of loss of savings is found to be **Rs.142.79 per month** for a single relocated household when compared to its previous savings and Rs345.70 p when compared with the non-relocated site.

Average household savings of relocated households in Delhi had decreased from Rs 392 per month to Rs 250 per month, a drop of nearly Rs 150 per month. In the non-relocated sites, average households savings was however up to Rs 595.70 per month suggesting that in absolute terms, the loss of savings to relocated households was more than twice the amount or Rs 345. This reduction in savings may be considered as cost of relocation. Percentage of people saving in the resettled sites in Delhi dropped by almost half, from 6.91 percent in the non-resettled sites to 3.47% in the resettled sites.(Annexure III)

Mumbai households reported an increase in both bank savings and savings in LIC schemes using household mapping. Increases were in the range of 12-16%. Data also showed an increase in number of people saving from 22% in the non-upgraded sites to 28.2% in the upgraded sites. (Annexure III)

Access to Credit

Relocation in Delhi has meant additional costs for households with regard to payment for the plot as also costs incurred during the shifting. On the other hand, such costs have been minimal in the case

of Mumbai where housing was free for the family, who only incurred costs with regard to shifting during the construction period.

Most relocated households had to find funds for paying for the plot to the MCD as also in rebuilding the house. Data from household mapping indicates that over 75 percent families accessing credit did so to pay land charges and construct houses. Since formal finance is not available to the poor, credit has been availed from friends, relatives or private informal financial intermediaries at exorbitant interest rates. This may have pushed many households into debt and poverty traps.

Table 26: Reasons for Borrowing through Household Survey

DELHI	PLOT	HOUSING	MARRIAGE	SHIFTING	OCCUPATION	HEALTH	ASSETS
Non Resettled	0 (0)	0 (0)	3 (1.6)	0 (0)	3 (1.6)	7 (3.8)	1 (0.5)
Resettled	89(49)	78(27.1)	5 (2.79)	6 (3.35)	4 (2.23)	19 (10.61)	13(7.26)

Note: Figures in parenthesis shows the percentage share to the corresponding population.

Institutional finance was not available to these households prior to shifting to pay for the land as housing in the pre-relocated sites was informal and illegal. Besides, even if banking institutions and cooperative societies could have provided loans to relocated households for housing, people appeared reluctant to approach them. According to the poor, their reluctance was related to the huge amount of paper work involved, their lack of capability to complete banking requirements, and the opportunity costs in accessing loans.

Friends and relatives were the primary source of funds for 47 per cent of households (land) and 50 per cent (house building) in Delhi. Private financial intermediaries were used to access funds by 34 per cent of households for plot and 43 per cent households for house construction (Annex VII). Employers were another source of money an option availed by 15 per cent (plot) and 6 percent (house) households.

The trend in the survey was confirmed through focus group discussions and matrix ranking in the resettled sites of Delhi. As shown in the figures below, community members ranked preferences for different credit options as also indicated their reasons for choosing the same. Preferences were ranked from 1 to 5 where 5 was the most preferred option.

Analysis of the matrices suggests that people find informal moneylenders as the most easily available option for credit loan even though interest rates quoted by them were among the highest.

However, the ease of accessing loan from these informal financial intermediaries due to the fact that they demanded very little or no paper work and there is no ceiling on the amount of credit that can be borrowed made these the most viable source for the poor. While there is a demand for collateral, money lenders do not ask for land tenure, an important consideration in formal lending by banking institutions.

Opportunities for Credit/ problems	Money Lender	Cooperative	Owner/Employee	Relative	Banks
Amount	5	2	3	4	1
Rate of Interest	1	2	3	4	5
Documents required	5	4	2	3	1
Security	4	2	1	5	1
Time	1	3	4	5	2

Fig 20 Matrix Ranking for Credit Options – Delhi

	Money Lender	Committees	Owner	Relatives	Banks
Amount	3	2	4	5	1
Rate of Interest	1	2	0	0	3
Documents Required	5	2	3	4	1
Security	2	4	3	5	1
Time	2	3	4	5	1

Fig 21 Matrix Ranking for Credit Options - Mumbai

Interest on Credit

Loan and borrowing has increased liability of relocated households in terms of interest payments and debt repayments.

Private moneylenders charge a monthly interest of up to 10 per cent. Friends and relatives too have demanded interest on amounts borrowed. Although the monthly interest payment by households was not included in the expenditure analysis, survey results and field investigations indicate that monthly interest for plot and house construction is Rs.472 and Rs.1010 per month respectively. This adds up to **Rs.1483.66 per month** for a household (Table 27) Due to drop in income and family savings, these payments most often continue for 5 to 6 years and in cases where credit has been accessed from informal financial intermediaries, the principal plus interest is likely to mount. This is another cost of relocation that has to bear by the households.

Table 27: Estimated interest for loan on plot and house by relocated household in Delhi (Rs/month)

Item	Bakrawala DA1	Bhawna DA2	Bhalswa DA3	ALL
Plot	183.08	687.00	548.50	472.86
House	1182.67	325.00	1524.73	1010.8
Total	1365.75	1012.00	2073.23	1483.66

5.9 Impact of Education Levels

Relocation, besides distancing households from their livelihoods has also resulted in schools being put out of reach. Transect walks in the resettled sites indicated that school buildings had yet to be constructed or made functional. As a result children had to either travel to their existing schools or join a new school near by. It was decided to examine the data for education of children for the two cities using the mapping exercise. Two key indicators used for analysis were: school enrolments and drop out.

Data from Delhi indicates that more girls vis-à-vis boys are at school in all the sites except for the non upgraded sites in Mumbai.

Delhi data obtained through the mapping exercise on number of children dropping out of school indicated that dropout rates quadrupled following resettlement. School dropout in resettlement areas was 32.54 percent in comparison to only 7.12 percent in the non-resettled areas. Resettlement thus seemed to be a key factor responsible for dropping out of schools. (Annexure VIII)

A surprising finding was the near four times rise in the drop out number in the non-resettled site of Yamuna Pushta in comparison to Bawana. It was decided to probe into the reason for this. Focus group discussions indicated that following the relocation almost all schools run by NGOs closed down. Children studying in NGO managed schools had no school to attend. Besides, as mentioned before, families left behind in the non-resettled sites were also among the most backward groups. Their children were not attending formal schools.

Based on the household mapping, the total number of children in upgraded and non-upgraded sites in Mumbai, in the age group 6-18 years was counted at 3184 and 3608 respectively. Of these 13.25 percent from the upgraded sites and 19.7 percent from the non-upgraded sites had dropped out of school. (Annexure VIII)

Relocation therefore has not only decreased school participation at the resettled sites but also at the non-resettled sites by making education less easily accessible to children in the communities. In the long term if these children had completed their full education they would have been able to contribute significantly to the city's economic growth. Several studies have proved that every additional year of schooling has a significant impact on household poverty reduction by reducing family size and increasing capability for full time employment. Upgrading on the other hand was clearly an indication of school retention.

Table 28: Number and percentage to total children in the school going age group from Household survey

City	Site	Total	Boys	Girls
Mumbai	Upgraded Sites	134	47	87
	Non upgraded Sites	223	125	98
Delhi	Resettled	255	122	133
	Non resettled Sites	264	112	152

Table 29: Reasons for Dropout in Delhi from household survey

	School Far	Transfer Certificate Not Available	Small Children At Home	Child Don't Want To Go To New School	High Transport Cost	Others	Total
NOT RESETTLED	0	0	0	3	0	66	69
RESETTLED	16	0	0	7	0	44	67
	16	0	0	10	0	110	136

Reasons for children dropping out of school in Delhi were also discussed using focus group discussions. Majority of children dropped out of school because the school was too far or because they did not want to study in a new school. Closing down of NGO run schools and lack of such facilities in the resettled sites was an important reason mentioned by the community for dropping out of school. Surprisingly, high transport costs for sending children to school did not emerge as a reason for discontinuing school. Feelings of insecurity too were reported by children in Delhi with 48.4 percent children reporting that they were afraid of moving around on their own to go to school or stay home alone.

5.10 Access to Physical and social infrastructure

Upgrading or relocation is expected to result in improved housing and environmental conditions and better access to legitimate basic services for the poor resulting in reduced coping and health costs. It was therefore decided to collect and analyze information with regard to improvement in water supply and sanitation services.

Access to Housing

Housing improvements were measured by nature of material used for construction using standard census of India definitions for the same. Permanent housing is housing (both roof and walls) made from permanent building material. Semi permanent housing is where walls are made from permanent building material while the roof is from temporary material. Temporary housing is shack like housing with both the roof and walls made from impermanent material.

Table 30: Access to Improved housing through Household mapping

City	Type of site	Condition of Housing (Percent)		
		Permanent	Semi Permanent	Temporary
Mumbai	Upgraded	100	0	0
	Non Upgraded	45.5	54.4	0.1
Delhi	Resettled	3.6	25.7	70.6
	Non-resettled	12.7	49.2	38.1

Upgraded communities in Mumbai as expected, witnessed remarkable change in housing conditions. All households now had permanent housing with basic amenities. Non-upgraded sites in Mumbai on the other hand had almost 55 percent people still living in semi-permanent or temporary housing. (Table 30)

By comparison in the resettled sites in Delhi nearly 96 percent households were still living out of temporary or semi permanent houses as estimated from the household mapping. Non-resettled households with permanent housing were almost 13 percent. However, this figure is only indicative as households left behind in the process of relocation were from among the poorest in the community.

Since housing in resettlement unlike upgrading was to be managed by individual households, families lacking resources were unable to rebuild immediately. Also paperwork for household lease was taking time and till that was complete the people were reluctant to invest in building. This is borne by the fact that 36.7 percent of houses in the oldest site were permanent when compared to only 31.7 percent in the most recently relocated site.

Legal ownership of plot was expected to enhance the sense of security among the residents. However, the investigators were given to understand house lease had been issued for just ten years and although unlikely, the government could relocate them once again when in need.

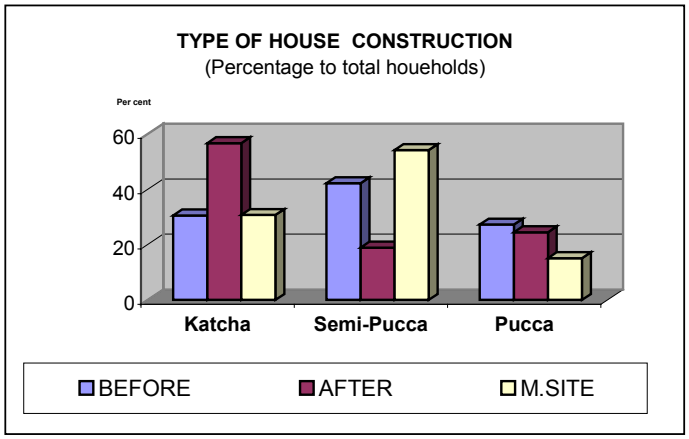

Fig 22 Type of house construction in Resettled and Non-resettled sites

An analysis of renter versus owner occupied housing provided interesting results. In Mumbai, percentage of renters in the upgraded sites was higher when compared with non-upgraded sites by 1.5%. Although the number itself may not be very significant at this point, the fact that better housing is likely to attract middle income households to rent space for living here and displace the poor is a distinct possibility. Focus group discussions with households indicated that some of the families preferred to rent out the houses as they found it difficult to pay the maintenance charges imposed on them after the upgradation. Poor future maintenance was also a cause of concern in these upgraded sites.

In Delhi ownership of housing was seen to improve significantly as a result of relocation, from 78.9 percent owners in non-resettled sites to nearly 98.3 percent owners in resettled areas (Annex V).

Water Supply and Sanitation Services

In Delhi, none of the relocated households had access to piped water supply at their homes, despite legal ownership of land. On the other hand, almost 25 percent households in the non-relocated sites had made illegal arrangements for piped supply into their homes by making extensions from the network supplies. Clearly then relocation had not made a significant difference to the drudgery of water collection for women. In the long term without adequate wastewater disposal arrangements, these settlements were likely to become slum like with rising health costs. Site visits to the slum settlements indicates that just about 5% area in the resettled sites had been provided with covered drainage, about 75 percent had open drainage and the balance had none drainage. In comparison, the non-relocated sites were fully covered by drainage systems, both covered (25%) and uncovered (75%) suggesting that not much had changed with respect to improved environments for the resettled households.

Table 31: Number and Percentage of Households with Access to Water Supply in Delhi from Survey

	Piped Water Supply	Household Hand pump	Community Tap	Community Hand pump	Tanker
Resettled	0	0	180	0	0
Not Resettled	45	0	134	0	0
Resettled%	0.00	0.00	100.00	0.00	0.00
Not Resettled%	25.14	0.00	74.86	0.00	0.00

Table 32: Number and Percentage of Access to Water Supply in Mumbai from Survey

	Piped Water Supply*	Household Hand pump	Community Tap	Community Hand pump	Tanker
Upgraded	209	0	57	0	0
Non Upgraded	12	0	133	0	0
Upgraded %	78.57	0.00	21.43	0.00	0.00
Non Upgraded %	8.28	0.00	91.72	0.00	0.00

*People reporting use of only piped water supply

In contrast in Mumbai while all households in the upgraded sites said they had piped supply in the households, about 20 percent were also using the community stand posts for additional water requirements (Table 32). Upgraded sites with access to services at the household level in the long term will reduce services' poverty.

The same situation prevailed with regard to access to toilets at the household level in Delhi and Mumbai. Delhi resettled households continued to depend on community toilets despite being shifted. Reasons for this are: lack of provision of underground sewerage at the resettlement sites with people unable to construct their own toilets even if they wished to and reducing size of plots to 12.5 meters square, too small to accommodate toilets.

In Mumbai, while all upgraded households had toilets inside their premises, some continued to depend on community toilets.

Table 33: Number and Percentage of Households with Access to Toilets in Delhi from Survey

	Individual	Community
Not Resettled	0	179
Resettled	0	180
Not Resettled %	0.00	100.00
Resettled%	0.00	100.00

Solid Waste collection services

Table 34: Number and Percentage of Households with Access to Toilets in Mumbai from Survey

Upgraded	215	51
Non Upgraded	7	138
Upgraded %	80.83	19.17
Non Upgraded %	4.83	95.17

Solid Waste collection services were not available in the resettled sites as yet reported nearly all the households, whereas in the non-resettled sites, within the city over 50 percent reported that they had access to solid waste disposal facilities. In the absence of such services likelihood of slum like conditions building up in the relocated sites was very high.

Access to electricity

In Delhi access to electricity in resettled and non-resettled sites did not change significantly despite legal stay arrangements in the latter. In Mumbai however, the difference is significant, with less than one-third households reporting access to legitimate electric connections.

Table 35: Access to electricity in Delhi from survey

	Yes	No
NOT RESETTLED	57	122
RESETTLED	60	120
NOT RESETTLED	31.84	68.16
RESETTLED	33.33	66.67

Table 36: Access to electricity in Mumbai from survey

	Yes	No
UPGRADED	252	14
NON UPGRADED	39	106
UPGRADED%	94.74	5.26
NON UPGRADED%	26.90	73.10

5.11 Access to Social Infrastructure

Several indicators were used in the study to understand access to social infrastructure. These have been analyzed below.

Access to Primary health Facilities

Access to health services was assessed using the matrix-ranking tool. Access to public health centers remained largely the same for the families after relocation. However, access to government hospitals became difficult. As a result people's dependence on private doctors and nursing homes increased. A drop in availability of health services provided by NGOs was also reported.

	Health Centre	NGO	Private Doctor	Nursing home	Government Hospital
Distance	5	4	5	3	1
Expenditure	5	5	2	1	3
Trained Staff	3	2	4	5	1
Facilities	1	4	2	5	3

Ranking has been done from 1 to 5, with 5 being the highest or best score and 1 lowest or worst rank.

Fig 23 Health Matrix for relocated sites in Delhi

	Health Centre	NGO	Private Doctor	Nursing home	Government Hospital
Distance	5	3	4	1	4
Expenditure	5	4	2	1	3
Trained Staff	3	2	4	5	1
Facilities	1	2	3	4	5

Ranking has been done from 1 to 5, with 5 being the highest or best score and 1 lowest or worst rank.

Fig 24 Health Matrix for Non relocated sites in Delhi

Cost of health services had increased as indicated in the expenditure analysis presented above.

Access to Bus Stops

Data from Delhi was analyzed with regard to availability of bus stops. This was because no change with regard to access was reported from the upgrades sites. Almost 27 percent households felt that bus stops were now farther off, between 250 and 500 meters from their homes.

Table 37: Distance From Nearest Bus Stops in Delhi from Survey in Meters

	<250	250-500	500-750	750>
NOT RESETTLED	0	110	9	60
RESETTLED	18	159	0	3
NOT RESETTLED %	0.00	61.45	5.03	33.52
RESETTLED%	10.00	88.33	0.00	1.67

Residents in the resettled areas complained about the skeleton bus service to their areas. Since these areas were relatively far flung, the Delhi Transport Corporation had started just two services in the morning and two in the afternoon. This meant that people had to get out to work early in the morning and could return only late in the evening. In case the last bus out or in was missed, people either missed work or had to stay back in the city or use the more expensive auto or cycle rickshaw to get from the closest point. Women in particular felt insecure using the late evening service, as it got quite dark by the time they reached home. Since the bus stops were at considerable distance to the settlement, they had to walk through uninhabited areas to reach their homes.

Communication Linkages

There was an increased access to communication linkages in the resettled households with about 25 percent more people reporting that communication facilities were available and were good. Increased access to communication facilities may be attributed to the distance of the resettled households to their old sites increasing demand for such services. In Mumbai both types of settlements reported good access to communication services.

Greater demand for such services in far off places would imply the need for governments to provide additional services, an investment that may not be required in the event of upgrading.

Table 38: Access to Public Phones in Delhi from Survey

	YES	NO
NOT RESETTLED	92	87
RESETTLED	136	43
NOT RESETTLED%	51.40	48.60
RESETTLED%	75.98	24.02

Table 39: Access to Public Phones in Mumbai from Survey

UPGRADED	258	8
NON UPGRADED	145	0
UPGRADED %	96.99	3.01
NON UPGRADED%	100.00	0.00

During FGDs, resettled households also mentioned following services that were missing in the new sites; mother dairy booths, markets, post offices, police station, parks etc. Resettlement plans rarely cost for such services as also for construction of additional schools and health centres.

Availability of Roads And Lanes

Nearly 85 percent household in the non-resettled as compared to only 73 percent in resettled sites reported that road networking in their areas was good. Gap between upgraded and non-upgraded households in Mumbai with regard to people reporting availability of a good road network was only 3 percent.

Table 40: Availability of Road Networks in Delhi from Survey

	Yes	NO
NOT RESETTLED	152	27
RESETTLED	131	49
NOT RESETTLED%	84.9	15.1
RESETTLED%	72.8	27.2

Table 41: Availability of Road Networks in Mumbai from Survey

	Yes	No
UPGRADED	258	8
NON UPGRADED	145	0
UPGRADED%	96.99	3.01
NON UPGRADED%	100.00	0.00

Chapter 6
Vulnerability Analysis

6.1 Impact of Relocation on Poverty Levels

The heterogeneity of the poor has been described in the literature review. As per the Tenth Five Year Plan, urban poor can be classified into three groups, viz., Core poor, Intermediate poor and Transitional Poor. Core poor are those having incomes between zero and half of poverty line. The intermediate poor have incomes between half of poverty line and poverty line. The transitional poor have incomes above the poverty line. This band included households whose incomes fall between the poverty line and one half of the poverty line. (Table 42)

Based on the Planning Commission's estimated urban poverty lines for 1999-2000 (Maharashtra: Rs.539.71 per capita per month, Delhi: Rs.505.45 per capita per month) the three income groups would be as follows;

Table 42: Heterogeneity of Poor based on Poverty Line

	(In Rs per capita per month)	
Income Group	Delhi	Mumbai
Core poor	Less than 252.77	Less than 269.85
Intermediate poor	Between 252.78 and 505.45	Between 269.86 and 539.71
Transitional Poor	Between 505.46 and 758.22	Between 539.72 and 809.56

The survey results provided scope to work out the incidence of poverty in the selected sites in Delhi and Mumbai. Though the estimates do have several limitations, it certainly helps to get a holistic picture on the income and inequality of low-income settlements.

Table 43: Number and Percentage of Households below poverty line in the selected sites in Delhi.

City	Category	Per capita Income (Rs/month)	After relocation (current)		Before relocation		Non relocated Sites	
			Number	Per cent	Number	Per cent	Number	Per cent
Delhi	Core Poor	>253	13	7.22	9	5	6	3.35
	Intermediate Poor	253-506	46	25.56	43	23.89	43	24.02
	Transitional Poor	506-759	48	26.67	52	28.89	39	21.79
	Non-Poor	>759	73	40.56	76	42.22	91	50.84
	Total		180	100	180	100	179	100

Table 44: Number and Percentage of Households below poverty line in the selected sites in Mumbai.

City	Category	Per Capita Income (Rs/month)	Upgraded sites		Non Upgraded Sites	
			Number	Per cent	Number	Per cent
Mumbai	Poor	<270	1	0.56	3	1.3
	Intermediate Poor	270to540	7	3.89	32	13.85
	Transitional Poor	540 to810	45	25	58	25.11
	Non-Poor	>810	127	70.56	138	59.74
	Total		180	100	231	100

Table 43 shows that, in Delhi, poverty has increased following relocation of households. Share of poor to the population has increased by nearly 5 per cent. In the non-relocated sites, the share of poor people to the population at 33.51 per cent is lower than that in the relocated sites.

An analysis of data using the three categories of core, intermediate and transitional poor suggests that the number of households that were core poor in the non-resettled sites has doubled following the relocation. The intermediate poor also below poverty line have become poorer following relocation.

In Mumbai on the other hand core poverty has been reduces by half. The most remarkable change has been noted in the drop in intermediate and transitional poor when compared with the non-upgraded sites by over 25 percent. (Table 44)

This clearly suggests that while upgrading leads to a decrease in poverty levels, resettlement in the short term actually increases poverty of the poor households.

Analysis of Vulnerability using Seasonality Maps

Data on vulnerability was also gathered through seasonality mapping. Across all parameters of employment, asset ownership, savings, debt, costs on education and health, resettled households were clearly at a disadvantage. Employment opportunities and employment diminished post relocation. Asset ownership, savings depleted, and debt increased. Costs on health rose following relocation whereas that on education was seen to reduce as more children dropped out of school. Although legal house itself was a major asset for the relocated families, it can only be truly deemed as an asset after it is debt free.

	Pre relocation					Post relocation						
Months	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**
EMPLOYMENT												
ASSETS												
SAVINGS												
DEBT												
EDUCATION												
HEALTH												

Fig 25 Seasonal Diagram for Relocated sites in Delhi

Months	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**
EMPLOYMENT												
ASSETS												
SAVINGS												
DEBT												
EDUCATION												
HEALTH												

Fig 26 Seasonal Diagram for Non-Relocated sites in Delhi

Legend						
	Highest					***Lowest***

In contrast, non-resettled sites showed regular employment across all twelve months of the year. Asset ownership not only remained constant, in fact increased during the festival season when cash

savings were converted into assets. Regularity of savings had its effect on savings, which were also steady through the year. Debt burden was low except during Diwali when there was a tendency to borrow and spend. Costs on education too remained steady, whereas that on health typically increased during the monsoon months due to high incidence of illness.

	Pre upgrading												Post Upgrading											
Months	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
EMPLOYMENT																								
EXPENSE ON EDUCATION																								
EXPENSE ON HEALTH																								
EXPENSE ON TRAVEL																								
SAVINGS																								
HOUSEHOLS ASSETS																								

Fig 27 Seasonal Diagram for Upgraded and Non Upgraded sites in Mumbai

Joint seasonal maps were prepared for upgraded and non-upgraded households in Mumbai as trends were unaffected by the process of upgrading. Employment fluctuated by seasons and typically was high during the festival and winter months. Savings and asset ownership was influenced by availability of disposable incomes. Expenditure on education was high at the start of the year and that on health during the rainy season. Expenditure on travel too rose at particular timings of the year linked to seasonal migration to villages.

Head Count Index

Head count index is a simple and widely used index of poverty. It is the ratio of number of people below poverty to the population. The index may be any value from zero to one. If the index is zero, all are non-poor and if it is one all are poor. A Head Count Index allows for a comparison across cities. The following table shows the head count index of poverty in selected sites of Delhi and Mumbai.

Analysis of data from the two cities suggests that while poverty in upgraded households of Mumbai has declined significantly, moving closer to zero. In case of Delhi however, poverty has deepened following the relocation.

Table 45: Head count index (P_0) of poverty in the selected sites in Delhi

City	Head count index		
	Before Relocation	After Relocation	Non-relocated site
Delhi	0.3249	0.3712	0.3351

$$\text{Head count index } P_0 = \frac{1}{N}\sum_{i=1}^{N} I(Yi \leq Z) = N_p/N$$

Where as

Np – Number of Poor

N- Total number of persons

Table 46: Head count index (P_0) of poverty in the selected sites in Mumbai

City	Head count index	
	Upgraded	Non Upgraded
Mumbai	0.0644	0.2025

According to the Head Count Ratio, poverty in Delhi has deepened whereas that in Mumbai has reduced.

Gini coefficient

Gini coefficient is a widely used measure of inequality. It is based on the Lorenz curve, a cumulative frequency curve that compares the distribution of income (or expenditure) with the uniform distribution that represents equality. Typically, the cumulative percentage of households (from poor to rich) is taken in the horizontal axis (x- axis) and the cumulative percentage of income (or expenditure) is taken in the vertical axis (y-axis). A diagonal line represents perfect equality and the Gini coefficient will be zero. The inequality will be more when the Lorenz curve deviates more from the diagonal line. The Gini coefficient will be one if there is perfect inequality. Table 37 shows the Gini coefficients of selected sites in Delhi and Mumbai.

Table 47: Gini Coefficients of selected sites in Delhi and Mumbai.

Relocated Sites (Delhi)		**Non-Relocated Sites (Delhi)**	
Bakarwala (DA1)	0.43	Gole Market (DB1)	0.38
Bawna (DA2)	0.44	Yamuna Pusta (DB2)	0.49
Bhalswa (DA3)	0.49	Rohini (DB3)	0.38
Total	0.45		0.42
Upgraded Sites (Mumbai)	**Gini Coefficient**	**Non-upgraded Sites (Mumbai)**	**Gini Coefficient**

Mulund(MA1)	0.60	Mulund(MB1)	0.48
Borivali(MA2)	0.45	Borivali(MB2)	0.52
Dharavi sion(MA3)	0.52	Dharavision(MB3)	0.45
MA-ALL	0.65	MB-ALL	0.48

In Relocated sites, the income inequality is found to be higher than that of non- relocated sites.

Gini Coefficient analysis suggests that even as incomes of upgraded households in Mumbai have collectively risen, the inequality between the rich and the poor households has also deepened i.e. while some households may have improved significantly, others may not have had such dramatic increase in their incomes. It is likely that some households may have actually got poorer following the upgrading as house ownership has meant increased family expenditure on basic services available free until now, and payments for building maintenance charges such as lifts etc. This trend is also highlighted in the figures below where Lorenz curve of the upgraded sites in Mumbai where upgraded sites show a higher level of inequality in the upgraded sites.

Almost 18 percent households became poorer following relocation. Interestingly, nearly 72 percent experienced no change at all in their incomes despite better housing and other related facilities. (Annexure X)

In Delhi, too the inequality has increased marginally following relocation suggesting that relocation has not had the expected impact on poverty alleviation as envisaged.

Lorenz curve

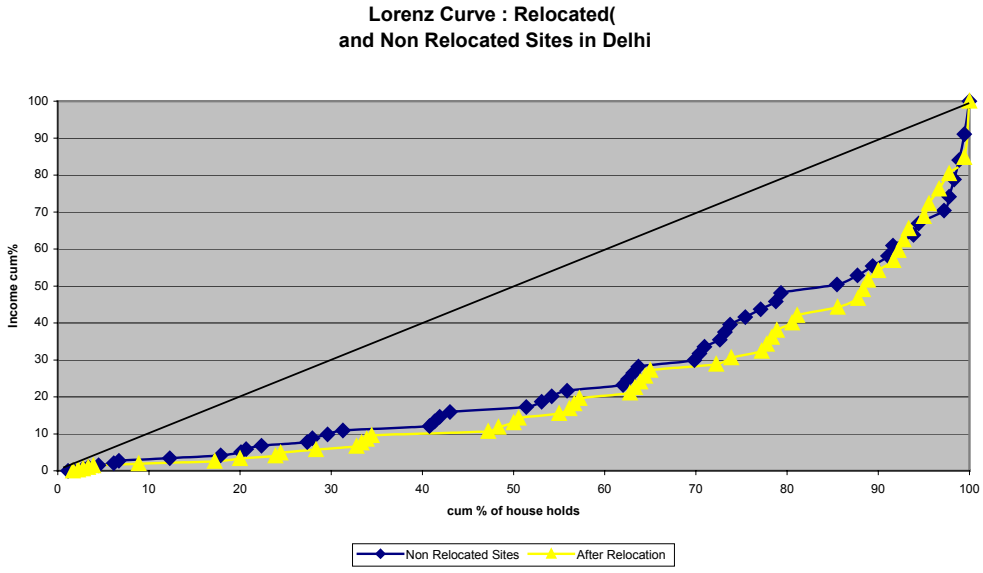

Fig 28 Lorenz Curve for Resettled and Non Resettled Sites in Delhi

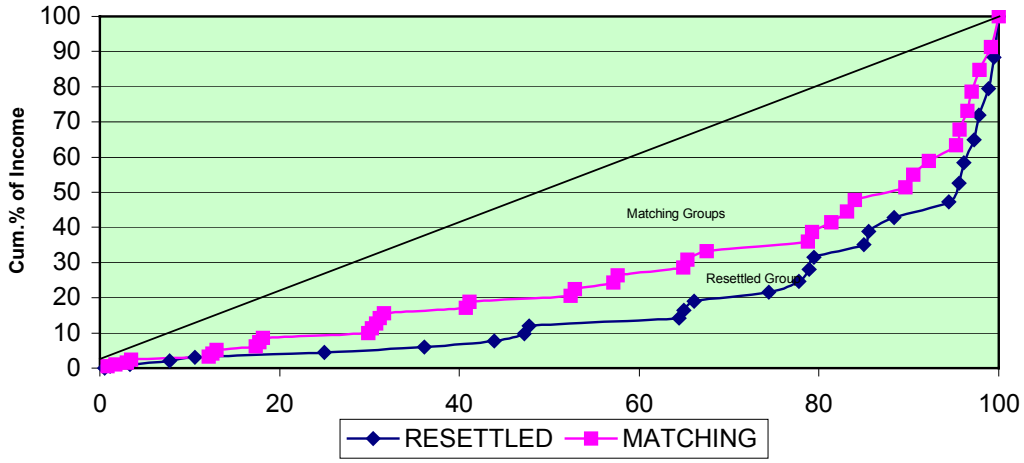

Fig 29 Lorenze Curve for upgraded (Resettled Groups) and non-upgraded site (Matching groups) in Mumbai

Sen Index (P_s)

Table 48: Sen Index for Delhi and Mumbai

	P_o	G^p	μ^p	z	P_s
	Head Count Index	**Gini Coefficient of poor**	**Per capita Income of poor**	**Poverty Line**	**Sen Index**
Delhi Relocated	0.3712	0.4379	360	505	0.222458
Delhi Non Relocated	0.3351	0.1675	382	505	0.124077
Mumbai Upgraded	0.0644	0.3906	409	540	0.034698
Mumbai Non upgraded	0.2025	0.3223	405	540	0.09958

$P_s = P_0 * (1-(1-G^p)*\mu^p/Z)$

P_0 - Head count index

G^p - Gini coefficient

μ^p - Mean Income

Z - Poverty Line

P_s - Sen Index

In Delhi, 33 % of people in the non-relocated sites are poor whereas in the relocated sites, the rate is 37%. In Mumbai, 20% of people in the non-upgraded sites are poor where as the rate in the upgraded sites is only 6%. (Annexure X)

Gini coefficient among poor shows that the inequality is higher in the relocated sites in Delhi (Gini = 0.4379) than non-relocated sites (Gini= 0.1675)

Though share of poor in upgraded sites of Mumbai was considerably lower (6%) than that in the non-upgraded sites (20%), level of inequality in the upgraded sites became marginally higher (Gini=0.3906) than non-upgraded sites following the intervention (gini =0.3223).

The Sen index in the non-relocated sites in Delhi is lower than that of relocated sites. In Mumbai, the Sen index in the non-upgraded sites is higher than that of upgraded sites indicating that far site relocation has an impact on the overall poverty levels.

These results strongly support the argument for on site up-gradation of settlements rather than relocating into far away places.

6.2 Measuring impact on City Economy

The Gross State Domestic Product (GSDP) of Delhi during 2002-03 was Rs.74474crores at Current prices and Rs.44135crores at 1993-94 prices. The Net State Domestic Product of Delhi during

2002-03 was Rs. 68747 at current prices. The annual compound growth rate (ACGR) of GSDP of Delhi between 1993-94 and 2002-03 has been estimated as 15.11% at current prices and 8.61 per cent at 1993-94 prices. The corresponding all India estimates are 12.47% and 5.98%. The net state domestic product (NSDP) also grew fast showing 15.38 percent at current prices and 8.76 % at 1993-94 prices.

The per capita income of Delhi during 2002-03 was Rs.47477 at current prices showing 8.5 % annual growth rate. At 1993-94 prices, the per capita income of Delhi was Rs.27898, which shows 5.1 % annual growth. The annual compound growth rate of per capita income of Delhi at current prices between 1993-94 and 2002-03 was 11.26 % where as the all India figures stands 10.52%. At constant prices, the ACGR of per capita income of Delhi between 1993-04 and 2002-03 is 4.88%.

The share of primary sector to the State Income of Delhi has declined from 3.85% in 1993-94 to 1.13% 2002-03. The share of secondary sector has also declined from 25.20% to 21.90% during the same period. However, the share of service (tertiary) sector has increased from 70.95% to 76.97%.

The per capita income of Mumbai City at current prices is Rs.48954, which is almost three times that of India. The City has 1.2 % of the total population in India but accounts for 16 % of income tax collections and 35% of corporate tax collections in the country. About 33 % of city income is from registered manufacturing units and 28% from unregistered manufacturing units. The service sector accounts for 64% of the city income.

The GSDP of Maharashtra during 2003-03 was Rs.295191crores at current prices showing 11.1 % increase over the previous year and NSDP during the year was Rs.263225. The per capita income of Maharashtra State during 2002-03 was Rs.26386 at current prices showing an 8.8 per cent annual growth rate and Rs.15484 at constant (1993-94) prices showing annual growth rate of 4.0 per cent. The growth rate of primary sector was just 1.3 per cent where as the secondary and tertiary sector grew at 12.5 %and 13.3% respectively during 2002-03. The share of primary sector to SGDP in Mumbai has declined from 34.4 per cent in 1960-61 to 15.7 % in 2002-03. The share of secondary sector has remained around 25 %. The service sector has increased from 39.9 to 59.3 per cent during the period.

Relocation Effects on City Incomes

The service sector contributes 59% of Mumbai's Income and 75% of Delhi's income. The growth of slums in both the cities is attributed due to the demand factor, particularly cheap labor. The cities cannot afford to loose the comparative advantage of the labor and their services.

Relocation of them into far away places reduces their incomes and employment opportunities. This, in turn affects the city economy. The invisible costs of relocation to the city economy such as school drop out of children, women unemployment, health risk, would become more visible in the long run.

The economic development of the city is also determined by the supply of quality labor in the long run. When a significant share of the city population, particularly the low income groups are relocated, the resultant economic shocks will not only limited to the affected households but also pave seeds to a larger shocks to the city economy. Suitable policy interventions are required to correct this. The city managers seldom include the invisible costs into the cost benefit analysis of the projects involving relocation of slum dwellers.

The inter linkages of the services provided by the low income settlements with different segments of the city economy need to be recognized.

Chapter 7
Benefits and Costs of Resettlement and Upgrading

7.1 Benefits of Resettlement

The major benefit of resettlement to the local government and city economy is the economic value of evacuated land. Evacuated land can be used for development projects such as hospitals, industrial units, etc. which in turn generate employment and value addition to the city economy. Even if these lands are maintained for parks, the economic value could be high since the environmental services in terms of clean air and recreational facilities push the property rates upwards and also provide increased earnings to the commercial activities. The benefits of resettled households are largely in terms of tenure status. If the resettlement is through on site upgrading, these households get several benefits including increased income and employment opportunities besides the tenure status.

Three major benefits have been estimated and incorporated to the benefit cost analysis of resettlement with relocation of households into far away places. These are (i) land value of evacuated site for commercial /developmental use; (ii) revenue flow in terms of net taxes and charges to the city managers, (iii) employment generation from the development projects in the evacuated sites. In the case of resettlement with onsite upgradation, the additional benefits of increased income to the households have been estimated and incorporated into the Benefit Cost Analysis.

Land value of evacuated site

The extent of land evacuated has been estimated from the information available from the household survey. The respondents had stated the land occupied by them prior to relocation. The average area of evacuated land for a single household is estimated as 21.7sq.m. In the relocated area they have been provided with 18 sq. m or 12.5 sq. m. From the city managers point of view, the average area allocated for a relocated household is about 50 sq. m, which includes the roads and lanes, parks and community halls etc. The scheme provides provision at the rate of 200 dwelling units (DU) per hectare in the relocated area. The details have been explained in the cost analysis.

The average number of households relocated in Delhi during the five years between 1999-2000 to 2003-04 has been estimated as 7868 per year. The number of slums has been increasing and this

trend is likely to continue due to the continuing migration of low-income groups to Delhi for employment.

The land value of evacuated area is very high since these are prime areas in the city. The value of such land has been estimated as Rs.21531.08 per sq. m (Rs.21.53Crore/hectare). For a single relocated household, the value of evacuated land is **Rs.4.67 lakhs** (i.e. Rs.21531.08/sq.m * 21.7 sq. m). The available estimates on real estate values of these areas have been taken into consideration while working out the estimates for values of evacuated land.

Net taxes and charges

The evacuated land can be successfully utilized for the developmental and commercial purpose. This will provide revenue flow to the city managers in terms of taxes and charges for the civic amenities. It is assumed that one per cent of the land value of evacuated land can be generated as net taxes and charges from the development projects. This has been estimated as **Rs.4670** from the evacuated land of a relocated household.

Employment Generation

The development projects from the evacuated land can provide employment opportunities. It is assumed that about 200 people can provide employment opportunities from one hectare of evacuated land from suitable development projects or commercial activities. The income generated from such activities has been estimated as Rs.60 lakhs per hectare per year. From the evacuated land of one relocated household this income is about **Rs.10890 per year.**

7.2 Benefits of Upgrading: Increased Incomes

The analysis of household income of selected sites in Mumbai shows that the average income of upgraded sites had increased to 10.61 percent than the non-upgraded sites. In the case of Delhi, the incomes had declined due to relocation of households into far away places. If the resettlement in Delhi had been through onsite upgrading it is assumed that household incomes would have increased in the same proportion as increase in the matching sites. The average income of non-relocated households in Delhi has been estimated as Rs.4189.11 per month. It has been estimated the benefits of increased income from on site upgradation is **Rs. 444.45 per month** per household (Rs.4189* 10.61). This is about Rs.5333 per year per household.

Table 49: Estimated benefits of relocation for one household in Delhi

Sl.No.	BENEFITS	Rate per year/HH	Resettlement Option
1	Land Value of evacuated site for Commercial Use	Rs.4.67 lakhs/HH (@Rs.21531.08/sq.m Rs.21.53 Crores/ha)	Relocation
2	Net Taxes & charges to city managers for Civic Amenities	Rs.0.0467akhs/HH	Relocation
3	Employment Generated from development projects in the evacuated site	Rs.0.1089 lakhs/HH (Rs.60 lakhs/Ha/year)	Relocation
4	Increased income and employment opportunities to the resettled households	Rs. 0.05333 lakhs/HH (Rs.444. 45 per month/HH)	On site upgradation

Table 50: Particulars about the relocated area and evacuated area of households

Item	Estimate
Average no. of households per year(No.)1999-00&2003-04	7867 HH per year
Relocated Area(In Ha) (@ 200 DDU/ha)	39.335 Ha per year (for 7867 HH)
Average Area earmarked by City manager for a Household	59.8 sq. Yard per HH (0.005 Ha) =50 sq. m
Actual area received (owned) by the relocated households in Delhi Category I: Category II:	Category I: 18 sq. m plot Category II: 12.5 sq. m plot
Evacuated area	21.7 sq. m

7.3 Costs of Resettlement

The cost of resettlement is often underestimated by city managers since several indirect and invisible costs do not find place in the benefit cost analysis. A close look at the actual costs of relocation presents a different picture. The decision of resettlement appears to be financially viable if the evacuated land is utilized to generate substantial inflow of revenues to the city. However, a different picture begins to emerge in the economic analysis when social costs are taken to account while analyzing benefits and costs.

Costs of relocation must include detailed costs incurred by each relocated household and the impact of displacement on the city economy. To the possible extend, such costs must be quantified in monetary terms. However, several costs are intangible in nature and hence difficult to quantify. In such instances, more weightage should be given to costs borne by the poor people.

In this study, a detailed cost benefit analysis has not been carried out. However an attempt has been made to analyze the costs and benefits with a view to understand whether the current practice of relocation of households to far away places in Delhi is justifiable from the economic perspective. Table 41 shows the estimated costs of the resettlement.

Table 51: Estimated Cost of Relocation of selected items for one household in Delhi

Sl.No.	COST	Rate	Nature
1	Land value of relocated site	Rs.4.18 lakhs/DU	Non-Recurring
2	Civic amenities	Rs.40000/DU	Recurring
3	Amount for house & others	Rs.68445	Non-recurring
4	Interest for plot & house	Rs.1483pm /HH	Recurring
5	Income loss to settlements	Rs.206.20 per month/HH	Recurring
6	Additional travel cost	Rs.428 pm/HH	Recurring
7	Additional expenses for health	Rs.109.25pm/HH	Recurring
8	Loss of savings	Rs.142.79pm/HH	Recurring
9	Cost of bus service	Rs.2628/HH/year for 4 trips	Recurring

At current (2004) prices

Cost of procurement of land for relocation

The relocation scheme in Delhi gives a provision to earmark or purchase land in suitable place. Since budgets are low, such land is usually available at sites far away from the evacuated area. As mentioned before the plan provides for 200 households or dwelling units (DU) per hectare of land inclusive of areas for roads and lanes and community facilities. The net area for the relocated households varies from 31.5 per cent (Bhalswa) to 39.18 per cent (Bawana) in the selected sites in Delhi. The actual land area however, received by the households fell in two categories; category I that was provided 18 sq. m plots and category II that was provided 12.5 sq. m plots. The relocation schemes provide 1 Ha of land for 200 households. That means, from the relocation project's perspective, the average area earmarked by the City manager for a household is 50 sq. m. This is equivalent to 0.005 Ha. So the poor households pay a land value for 50sq.m plot but receive only 12.5sq.m land area.

The average land value of the relocated area has been estimated as Rs.8.36crores per hectare. Therefore, the cost of relocated land for a household has been estimated as **Rs 4.18 lakhs** at 2004 prices**.**

Civic amenities

The cost of developing the relocated land and providing civic amenities to the relocated settlements is an important direct cost of relocation. It includes roads, drainage, community toilets and sewerage, water supply, and electricity. The Delhi government provides a plan support @ Rs.10000 per plot. The contribution of land owing agencies has been @ Rs.29000/- per plot for 18 sq.m. plot and @ Rs.20,000/- for 12.5 sq.m plot. The share of beneficiary has been fixed as Rs5000/- plot for each category. Permissible limit of these two categories has been put at Rs.44,000/- and Rs.35,000/- respectively. The actual expenditure is found to be lower than the allocated figures. From the available information of these expenses from the selected sites, the cost for providing the above civic amenities has been estimated as **Rs.40,000** per household .

Other costs

Other costs that have been incorporated into the benefit cost analysis are summarized in table 41. These are estimated mainly from the income and expenditure analysis of the households. The cost for house and related relocation costs such as shifting costs, etc. borne by the households has been estimated as Rs.68445 per household. This is a non-recurring cost.

Income loss to settlements has been estimated as Rs.206.20 per month per household. The additional travel cost is found to be Rs.428 per month per household. Additional expenses on health care have been estimated as Rs.109.25 per month per household. Analysis on savings shows that loss of savings due to relocation is about Rs.142.79 per month per household. The cost of bus service has been estimated as Rs.2628 per household. The cost of DTC bus service is Rs.30 per km and it is assumed that there have to be a minimum 4 trips to these settlements connecting them to the main city. In addition each household experienced a loss of nearly Rs3000 (Table 52) during the process of shifting following the relocation by staying off work.

Table 52: Wage lost during Shifting

	NO. OF PERSONS reporting loss	NO. OF DAYS lost to shifting	Reported Amount Lost in Wages	Loss of Days /Person	Total amount lost /Person
Delhi	171	4835	470555	28.27	2751.78

7.4 The Final Benefit-Cost Analysis

The benefits and costs of resettlement have been carried out within the framework of Benefit-Cost Analysis, methodological aspects of which have been described in Chapter 4 - Approach and Methodology.

Two options considered in the analysis are:

- Case I: Resettlement with Relocation of Households and utilizing the evacuated land for development/ commercial purposes.

- Case II: Resettlement with onsite upgrading of households in 60 per cent of land they had occupied and utilizing remaining 40 per cent of land for development/commercial purposes.

Benefits and costs (BCA) have been estimated for a single resettled household in Delhi and the same has been incorporated into the BCA.

Benefits and Costs have also been estimated for a period of 10 years starting from 2004. The present values of costs and benefits have been worked out with the real interest rate of 8 per cent. The real interest rate is the difference between social discount rate (12%) and the rate of inflation (4%). The Net Present Value (NPV) and Benefit Cost Ratio (BCR), two important parameters in the BCA have been considered to determine the economic worth of the resettlement project. The necessary conditions to determine the economic worth of the project are:

The NPV must be positive (i.e. NPV >0) and

BCR greater than unity (BCR >1)

The following tables summarize the BCA in both scenarios.

In the case of resettlement of slums through relocation, present value of benefits has been estimated as Rs.5.80 lakhs per household whereas the cost is at Rs.9.50 lakhs per household. This gives a NPV of –3.70 and BCR 0.61. This clearly shows that the option of relocation is not economically worthwhile.

In the case of resettlement of slums through onsite upgrading the present value of benefits has been estimated as Rs.2.69 lakhs per household and that of costs Rs.2.57 lakhs per households. This gives a positive NPV of 0.51 and the BCR at 1.24 is greater than unity. This option justifies the economic worth of the project.

Table 53: Case I: Benefit-cost Analysis of relocation with development project in the evacuated site.

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
BENEFITS												
Land Value of evacuated site for Commercial Use	Rs.4.67 lakhs (@Rs.21531.08/sq.m Rs.21.53 Crores/ha)	4.67	0	0	0	0	0	0	0	0	0	4.67
NetTaxes & charges to city managers for Civic Amenities	Rs.0.0467akhs/HH Rs.21.489 lakhs/ha	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.47
Employment Generated from development projects in the evacuated site	Rs.0.1089 lakhs/HH (Rs.60 lakhs/Ha/year)	0.11	0.11	0.11	0.109	0.109	0.109	0.109	0.109	0.11	0.109	1.09
Total Benefits		**4.83**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**0.16**	**6.23**
Present value of Benefits, PV(B)		**4.83**	**0.14**	**0.13**	**0.12**	**0.11**	**0.11**	**0.10**	**0.09**	**0.08**	**0.08**	**5.80**
COST												
Procurement of land for resettlement	Rs.4.18 lakhs/DU	4.18	0	0	0	0	0	0	0	0	0	**4.18**
Civic amenities	Rs.40000/DU	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	**4.00**
amount for house & others	Rs.68445	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.68**
Interest for plot & house	Rs.1483pm /HH	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	**0.89**
Income loss to settlements	Rs.206.20 per month/HH	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	**0.25**

additional travel cost	Rs.428 pm/HH	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	**0.51**
additional expenses for health	Rs.109.25pm/HH	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	**0.13**
loss of savings	Rs.142.79pm/HH	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	**0.17**
Costs of bus service	Rs.2628/HH/year for 4 trips	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	**0.27**
Total Costs		**5.58**	**0.71**	**0.71**	**0.71**	**0.71**	**0.53**	**0.53**	**0.53**	**0.53**	**0.53**	**11.09**
Present value of Costs PV(C)		**5.58**	**0.66**	**0.61**	**0.56**	**0.52**	**0.36**	**0.34**	**0.31**	**0.29**	**0.27**	**9.50**
NPV		-0.75	-0.51	-0.48	-0.44	-0.41	-0.26	-0.24	-0.22	-0.20	-0.19	**-3.70**
BCR		0.87	0.22	0.22	0.22	0.22	0.29	0.29	0.29	0.29	0.29	**0.61**

Table 54: Case II: BCA with the option of onsite up-gradation of resettlement in Delhi.

		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
BENEFITS												
Land Value of 40% of evacuated site for Commercial Use	Rs.4.67 lakhs*40% (@Rs.21531.08/sq.m Rs.21.53 Crores/ha)*40%	1.87	0	0	0	0	0	0	0	0	0	1.87
NetTaxes & charges to city managers for Civic Amenities	Rs.0.0467lakhs/HH*40% Rs.21.489 lakhs/ha*40%	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.19
Employment Generated from development projects in the evacuated site	Rs.0.1089 lakhs/HH *40% (Rs.60 lakhs/Ha/year*40%)	0.04	0.04	0.044	0.044	0.044	0.04	0.044	0.044	0.04	0.044	0.44
Increase in house hold income of settlements	10.61% increase ie.Rs.425.60 pm /HH (Rs.5107per year/HH)	0.05	0.05	0.051	0.051	0.051	0.05	0.051	0.051	0.05	0.051	0.51
Total Benefits		**1.98**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**3.00**
Present value of Benefits, PV(B)		**1.98**	**0.10**	**0.10**	**0.09**	**0.08**	**0.08**	**0.07**	**0.07**	**0.06**	**0.06**	**2.69**
COST												
Civic amenities	Rs.10000/DU	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	**1.00**

amount for house & others	Rs.68445	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.68**
Interest on loan and borrowings	Rs.1483pm /HH	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00	0.00	**0.89**
Total Costs		**0.96**	**0.28**	**0.28**	**0.28**	**0.28**	**0.10**	**0.10**	**0.10**	**0.10**	**0.10**	**2.57**
Present value of Costs PV(C)		**0.96**	**0.26**	**0.24**	**0.22**	**0.20**	**0.07**	**0.06**	**0.06**	**0.05**	**0.05**	**2.18**
NPV		1.02	-0.15	-0.14	-0.13	-0.12	0.01	0.01	0.01	0.01	0.01	**0.51**
BCR		2.06	0.41	0.41	0.41	0.41	1.13	1.13	1.13	1.13	1.13	**1.24**

Table 55: BCA of Resettlement options.

Option/Activity	Present Value of Benefits (Rs.lakhs/hh)	Present Value of Costs (Rs.lakhs/hh)	Net present value (NPV)	Benefit Cost Ratio
Relocation of slums & using evacuated site for development projects	5.80	9.50	-3.70	0.61
Resettlement of slums through Onsite upgrading and using 40 % of site for development projects.	2.69	2.57	0.51	1.24

Note: Present values are estimated @ 8 per cent real interest rate for a period of 10 years.

{Real Interest rate (8%)= Social Discount rate (12%)-Rate of Inflation (4%)}

Chapter 8

Conclusion and Recommendations

8.1 Conclusions

Those against far site slum resettlement believe that relocation distances people from their livelihoods triggering economic shocks that push households into poverty. Those for slum upgrading reason that improving quality of people's environments at their existing place of stay or close by betters their overall quality of life.

This study was an attempt to resolve the argument by gathering information on both the positive and negative effects of the two processes in the wider context of macro economic change. The study estimated both the real and the intangible costs incurred in resettlement and on site upgrading at the household and city level for two cities Delhi and Mumbai using a range of indicators to estimate the cost and benefits of both the options. Both qualitative and quantitative data was collected for the study from three resettled and three non-resettled sites in Delhi and three upgraded and three non-upgraded sites in Mumbai.

Household Incomes improve for Upgraded Households

Average household income in Delhi had decreased by over Rs200 per month following resettlement. In comparison, average household income of upgraded sites in Mumbai was 10.61 per cent higher than average household income of non-upgraded sites.

Far site relocation not only shrunk incomes of the resettled, it also resulted in a decline in incomes in the matched non-relocated sites by disturbing the internal economy of these areas that constituted the main source of income for a large number of slum households. Despite the drop in incomes of non-resettled households, their overall incomes were found to be marginally higher than the current income in the resettled households.

Per capita Income declines for Resettled and non-resettled Households

Per capita income at relocated sites in Delhi estimated at Rs.748.18 per month had declined following resettlement by Rs31.55p from the previous earnings and by nearly twice that amount (Rs74.02p) from the corresponding non resettled sites.

In Mumbai, per capita income at upgraded sites was Rs175 more than at the non-upgraded sites, a huge jump in the income following upgrading.

While fragmentation of the internal slum economy had resulted in the per capita drop in incomes of non-resettled families in Delhi, for resettled households the opportunity mismatch was the reason for this change.

Earning Members

A marginal decline of 1.5 percent in the number of earning members in relocated versus non-relocated sites in Delhi was noted from the survey data. In contrast, number of earning members rose by 0.39 per cent from 32.77 per cent to 33.26 per cent in the upgraded sites of Mumbai. Household mapping data of the entire settlement however indicated that 9 percent more members in non-upgraded families were employed indicative of the increasing level of inequality between the two types of sites, it is also suggestive of the fact that as household conditions improve, number of members required to work to meet household expenses may actually go down.

Resettlement: Disempowering Women

A drop in the share of female workers in resettled sites of Delhi by 2.5 per cent was noted from 16.36 per cent where to 14.49 per cent. In comparison, share of female workers to their population in upgraded settlements was up by 0.7 per cent in Mumbai. This suggests that relocation has resulted in loss of employment for female workers. On the other hand, upgrading has actually increased contribution of women in the city economy.

Lack of suitable employment opportunities in the neighborhood of resettled sites, erosion of social capital, fear of personal and child safety, lack of childcare options in the new neighborhoods, distance from old work sites and high transport costs had led to women dropping out of work. In the long term, this would mean a process of disempowerment for women whose control over the household resource share would decline.

Opportunity-Skill Mismatch following Resettlement

Livelihood matrices developed in the study showed a dramatic change in livelihood opportunities following resettlement. While at the original sites, households engaged primarily in rickshaw pulling vegetable vending, petty shop keeping, livelihood opportunities around resettled sites were primarily related to manufacturing in the local industries. Very few members professed to have the required skills for working in these industries, suggesting a mismatch between people's skills and livelihood opportunities.

Changing Nature of Employment for women

Prior to relocation most women worked as domestic helpers. This was evident from the high rate of domestic employment among women in the non-resettled site as compared with their employment in government and private jobs. Following the relocation, domestic work among women declined and was replaced by self-employment and daily wage work.

Change in Household and Production Assets

Ownership of household assets has changed following relocation in Delhi. Economic pressure due to relocation (payment for plot, shifting and hous construction) has forced many households to sell assets. Ownership of household assets dropped by over 50 percent. In Mumbai, all upgraded households show increased ownership of assets when compared with non-upgraded sites.

The trend vis-à-vis household assets maintained in case of ownership of assets of production. While ownership of cycle rickshaws, carts, shops etc. declne in Delhi, in Mumbai it showed an increase, in particular of two wheelers and computers.

Change in Housing Ownership

More households in Mumbai owned houses following upgrading. Slum dwellers in Delhi benefiting from resettlement were deemed owners of houses even though these were on illegally occupied land. Security of tenure offered through resettlement at present was thus not a sufficient condition for development in view of the livelihood displacement.

Long Distances to work place reduces disposable income

Distance to work sites following resettlement was seen as critical in livelihood sustainability. Its effect was measured by comparing income changes using distance as a parameter.

Nearly 62 percent earning members in resettled sites experienced an increase in distance to work destination following relocation. While prior to relocation, a significant proportion of people traveled on foot to their work places (25%), in the relocated sites majority of earning members used the local bus to get to work (75.9%). Use of public transport and cycle rickshaws to get to and from work increased by over 28 percent and 10 percent respectively following resettlement and walking to work places declined by nearly 16 percent.

An average cost for all households on travel by bus was arrived at by multiplying the current bus fares for the increased average distance by total number of earning members experiencing increased travel 134x Rs7. Based on this, total daily travel costs for 134 households was calculated at Rs938.[53] Besides increases in cost of transportation, distance to work site has implications in terms of additional time spent on commuting.

Change in Nature of Employment

Full time employment among earning members dropped significantly, with nearly one-third less full time employees in the resettled sites as compared to non-resettled sites. A small percentage of people even lost their jobs following the resettlement. In comparison, in Mumbai, full time employment increased by almost 40 percent and daily wage employment dropped sharply, by almost 18 percent.

In relocated sites in Delhi, share of self-employed workers doubled after resettlement. Upgrading thus helps in not jut improving incomes but also affects a shift in the type of employment, from ad hoc to regular.

Among women domestic work declined following relocation and was replaced by self-employment and daily wage work. In Mumbai too, share of female workers was seen to have increased from 10 to over 17 percent from non-upgraded to upgraded areas primarily in domestic work, daily wage and private sector employment.

Changes in House hold Expenditure

Average monthly household expenditure increased in both the cities. However, while in Delhi the expenditure analysis reflected an increase in vulnerability, in Mumbai the rise in expenditure is indicative of the increased wealth of these households.

In Delhi the average monthly household expenditure increased between Rs 218 and Rs 138 per month when compared with matched sites/pre relocation expenses respectively. In Mumbai, the increase was considerably higher and ranged between Rs.843 and Rs966 per month when compared with non-upgraded sites/ pre upgrading.

Itemized analysis of expenditure data for Delhi attributed the higher spending to travel and health. Coping mechanisms included reduction in food, education and clothing costs. Food expenditure in Delhi dropped by nearly Rs250 per household as compared to non-relocated households indicating deepening food insecurity.

In Mumbai spend on food increased by over Rs 400 per household when compared with non-upgraded sites. Mumbai households also spent more on education and entertainment.

Relocation thus resulted in invisible costs to families, which have been largely underestimated or ignored while estimating relocation costs.

Increased Expenditure on Travel

Share of travel cost to household expenditure in relocated sites of Delhi increased by over 11percent as compared to the non-relocated sites. On an average each household was found to be spending Rs.428.09 as additional travel costs. This amount was estimated by analyzing the household expenditure pattern of relocated sites and that of non-relocated sites and also taking into account expenditure before and after relocation.

Increased Expenditure on Health

Relocation to improved environments was expected to result in reduced health expenditure. Health expenditure for relocated households however appears to have increased rather than decreased following resettlement because of inadequate water and sanitation services. The average household expenditure on health was estimated at Rs.109.25 per month for a single relocated household in Delhi.

Eroding Social Safety Nets

Data from the survey clearly indicates a dissipation of the community social capital following relocation in Delhi. Membership of associations declined from 26 percent in non-relocated sites to merely 9.4 percent. In Mumbai, the social capital not only remained intact, but also improved when communities were organized into cooperatives to enable upgrading.

Erosion of social capital was further evidenced in the professed level of insecurity and reported thefts during focus group discussions. Percentage of households feeling insecure in the new surroundings increased from a mere 3 percent in pre relocated and matched sites to nearly 40 percent after relocation. Reported increase in thefts was from 6 to 22 percent.

Savings

Impact on household savings was measured for both relocated and upgraded sites. Cost of relocation in terms of loss of savings was found to be Rs.142.79 per month for a single relocated household when compared to its previous savings, and Rs345.70 p when compared with savings in the matched households.

Percent of households in upgraded sites in Mumbai having savings was found to have increased to about 28.2 %, an increase of about 7 percent when compared to non-upgraded sites. In Delhi however, only about 4 percent of resettled households were found to be saving.

Relocation in Delhi had led to depletion in household savings. In order to meet cost of the plot, shifting and rebuilding, households used up their savings, disposed assets or borrowed. Institutional finance was not available to the households at the time of land allotment (since they were living illegally) and therefore to pay for the land households approached for housing, people approached friends and relatives for money to pay for land (47%) and house construction (50%) or private financial intermediaries (42%) or employers (15%).

Loan and/or borrowing has increased liability of relocated households in terms of interest payments and debt repayments.

Relocation Pushing People into a Debt Trap

Relocation in Delhi has meant additional costs for households with regard to payment for plot and shifting costs. These costs have been minimal in case of Mumbai where housing was free for the family, who only incurred costs with regard to shifting during the construction period.

Over 75 percent families seeking credit in Delhi during this period did so to pay the land charges and for house construction. Since formal finance is not available to the poor, credit has been availed from friends, relatives or private informal financial intermediaries at exorbitant interest rates. This may have pushed many households into debt and poverty traps.

Loan and borrowing has increased liability of relocated households in terms of interest payments and debt repayments. Monthly interests for plot and house construction at Rs.472 and Rs.1010 per month respectively adds up to **Rs.1483.66 per month** for a household.

Casualty Education

Relocation has resulted in schools being put out of reach of children. Dropout rates in Delhi estimated from household mapping suggest that it has increased four times following resettlement from 7 percent to 32.54 percent. Resettlement thus seemed to be a key factor responsible for dropping out of schools. At the same time drop outs increased in non-resettled sites as well with NGO run schools shutting shop. In Mumbai, dropout rates were almost 6 percent lower in upgraded sites vis-à-vis non-upgraded sites. In the long term education disruption is likely to have a negative impact on city's economic growth. Upgrading on the other hand is clearly an indication of school retention.

Improved Access to Housing, Physical and social infrastructure

Upgraded communities in Mumbai as expected, witnessed remarkable change in housing conditions with all households having permanent structures with basic amenities. Non-upgraded sites in Mumbai had almost 55 percent people still living in semi-permanent or temporary housing. By comparison in the resettled sites in Delhi nearly 96 percent households were still living out of temporary or semi permanent houses as families lacked resources were unable to rebuild immediately.

In Delhi, none of the relocated households had access to piped water supply at their homes, despite legal ownership of land. Only about 5% area in the resettled sites had been provided with covered drainage, about 75 percent had open drainage and balance had no drainage. In contrast in Mumbai all households in upgraded sites had piped supply in the households.

Delhi resettled households continued to depend on community toilets whereas all upgraded households in Mumbai had toilets inside their premises. Solid Waste collection services were not available in the resettled sites of Delhi as yet. In the absence of such services likelihood of slum like conditions building up in the relocated sites was very high.

Unlike Mumbai where all households had metered electricity supply, access to electricity in the resettled households in Delhi did not change significantly despite legal stay arrangements following resettlement.

Access to health services remained largely unchanged for families after relocation. However, access to government hospitals became difficult, resulting in increased dependence of people on private doctors and nursing homes.

Access to communication services in resettled households increased by 25 percent, possibly due to increased demand for these facilities at the resettled sites.

Data from Delhi was analyzed with regard to availability of bus stops. This was because no change with regard to access was reported from the upgrades sites. Almost 27 percent households felt that bus stops were now farther off, between 250 and 500 meters from their homes

During FGDs, resettled households complained that the following services were missing in their areas; markets, post offices, police station, parks etc.

Vulnerability Analysis

Impact of Relocation on Poverty Levels

In Delhi, poverty has increased following relocation of households. Share of poor to the population has increased by nearly 5 per cent. In the non-relocated sites, share of poor people to the population at 33.51 per cent is lower than that in the relocated sites.

An analysis of data using the three categories of core, intermediate and transitional poor used by the Planning Commission to group poor according to their vulnerabilities suggests that the number of core poor households in the non-resettled sites has doubled following the relocation. Intermediate poor, also below the poverty line, were found to have become poorer following relocation.

In Mumbai on the other hand core poverty has less than halved, most remarkable change being noted in the drop in intermediate and transitional poor among upgraded and non-upgraded sites, by over 25 percent. This clearly suggests that while upgrading leads to a decrease in poverty levels, resettlement in the short term actually increases poverty of the poor households.

Head Count Index

Analysis of data from the two cities using the Head Count Index suggests that while poverty in upgraded households of Mumbai has declined significantly, moving closer to zero, in case of Delhi however, it has deepened following the relocation.

Gini coefficient

Gini Coefficient analysis suggests that even as incomes of upgraded households in Mumbai have collectively risen, inequality between the rich and the poor households has deepened i.e. while some households may have improved significantly, others may not have had such dramatic increases in their incomes. Upgrading too needs to be managed with greater sensitivity to ensure that the benefits of this accrue equally to all households.

In Delhi, too the inequality has increased albeit marginally following relocation suggesting that relocation has not had the expected impact on poverty alleviation as envisaged.

Lorenz Curves

The Lorenz curve and the Gini coefficients show that although poverty levels in the upgraded sites have definitely reduced but the inequality between the rich and the poor has deepened. The Lorenz curve of the upgraded sites of Mumbai indicates that inequality among non upgraded sites was found to be much lower than the upgraded sites.

Sen Index

Sen index developed for the upgraded and non-upgraded sites in Mumbai and the resettled and the non-resettled sites in Delhi show that far site relocation has had a negative impact on poverty levels and poverty in the resettled sites of Delhi has increased.

Impact on City Economy

The service sector contributes 59% of Mumbai's Income and 75% of Delhi's income. The growth of slums in both the cities is attributed due to the demand factor, particularly cheap labour.

Relocation of them into far away places reduces their incomes and employment opportunities. This, in turn affects the city economy. The invisible costs of relocation to the city economy such as school drop out of children, women unemployment, health risk, would become more visible in the long run.

The economic development of the city is also determined by the supply of quality labour in the long run. When a significant share of the city population, particularly the low income groups are relocated, the resultant economic shocks will not only limited to the affected households but also pave seeds to a larger shocks to the city economy. Suitable policy interventions are required to correct this. The city managers seldom include the invisible costs into the cost benefit analysis of the projects involving relocation of slum dwellers.

Cost-Benefit Analysis

Benefits of Resettlement

Three major benefits were estimated and incorporated in the benefit cost analysis of resettlement with relocation of households to far away places. These are (i) land value of evacuated site for commercial /developmental use; (ii) revenue flow in terms of net taxes and charges to the city managers, (iii) employment generation from the development projects in the evacuated sites. In the case of resettlement with onsite upgrading, the additional benefits of increased income to the households have been estimated and incorporated into the Benefit Cost Analysis.

Land value of evacuated site

Land value of evacuated areas is very high since these are prime areas in the city. The value of such land has been estimated as Rs.21531.08 per sq. m (Rs.21.53Crore/hectare). For a single relocated household, the value of evacuated land is **Rs.4.67 lakhs** (i.e. Rs.21531.08/sq.m * 21.7 sq. m) taking into consideration the real estate values while working out the estimates for values of evacuated land.

Net taxes and charges

If evacuated land is successfully utilized for developmental and commercial purpose, it provides revenue flow to the city managers in terms of taxes and charges for the civic amenities. It is assumed that one per cent of the land value of evacuated land can be generated as net taxes and charges from the development projects. This has been estimated as **Rs.4670** from the evacuated land of a relocated household.

Employment Generation

Development projects on evacuated land generate employment opportunities. The income generated from such activities has been estimated as Rs.60 lakhs per hectare per year. From the evacuated land of one relocated household this income is about **Rs.10890 per year.**

Benefits of Upgrading: Increased Incomes

The average income of non-relocated households in Delhi has been estimated as Rs.4189.11 per month. It has been estimated the benefits of increased income from on site upgradation is **Rs. 444.45 per month** per household (Rs.4189* 10.61). This is about Rs.5333 per year per household.

Costs of Resettlement

Cost of procurement of land for relocation

The average land value of the relocated area has been estimated as Rs.8.36crores per hectare. Therefore, the cost of relocated land for a household has been estimated as **Rs 4.18 lakhs** at 2004 prices**.**

Civic amenities

The cost of developing the relocated land and providing civic amenities to the relocated settlements has been estimated as **Rs.40,000** per household .

Other costs

Other cost for house and related relocation costs such as shifting costs, etc. borne by the households has been estimated as Rs.68445 per household. Income loss to settlements has been estimated as Rs.206.20 per month per household. The additional travel cost is found to be Rs.428

per month per household. Additional expenses on health care have been estimated as Rs.109.25 per month per household. Analysis on savings shows that loss of savings due to relocation is about Rs.142.79 per month per household. The cost of bus service has been estimated as Rs.2628 per household. The cost of DTC bus service is Rs.30 per km and it is assumed that there have to be a minimum 4 trips to these settlements connecting them to the main city. In addition each household experienced a loss of nearly Rs3000 during the process of shifting following the relocation by staying off work.

Benefit Cost Analysis

In the case of resettlement of slums through relocation, present value of benefits has been estimated as Rs.5.80 lakhs per household whereas the cost is at Rs.9.50 lakhs per household. This gives a NPV of –3.70 and BCR 0.61. This clearly shows that the option of relocation is not economically worthwhile.

In the case of resettlement of slums through onsite upgrading the present value of benefits has been estimated as Rs.2.69 lakhs per household and that of costs Rs.2.57 lakhs per households. This gives a positive NPV of 0.51 and the BCR at 1.24 is greater than unity. This option justifies the economic worth of the project.

8.2 Recommendations

Upgrading for Poverty Reduction: First Call of Local Authorities

Data from the study clearly points to upgrading as the better of the two options for slum development and poverty reduction. While upgrading increases incomes of households, far site relocation not only shrinks incomes but also deepens vulnerability. Besides impacting on incomes and household expenditures, its major impact is on schooling of children, who drop out of school because of the distance. Each year of schooling loss has a long-term impact on the GDP of the city.

Upgrading is a win-win option for both the local government and the household. Governments at the national, state and city level need to recognize the benefit of upgrading and ensure that this is the primary option for slum development.

Mumbai Slum Evictions: Deepening Poverty

Recent developments in Mumbai following the installation of a new government have resulted in a shift in approach to slums. From slum upgrading, the authorities have suddenly changed tracks and re now focused on slum demolitions.

Besides destroying meager assets of slum dwellers, these demolitions in the long term, as has been proved by the study, will affect the economy of the city by disturbing livelihoods and deepening poverty.

Large-scale slum evictions have also been underway in Kolkata along the water bodies.

It is imperative that state and local authorities be made aware of the macro economic consequences of such decisions.

Upgrading must form the Cornerstone of the National Policy on Slum Development

The Ministry of Urban Development and Poverty Alleviation in the Government of India has been preparing a National Policy on Slum Development. Its first draft was developed in 1998 but has remained unapproved because of lack of consensus on the issue. Data from the study should be reviewed and used for providing a much-needed direction to the slum policy. Based on the findings of the study clear options for states and local bodies can be proposed in the slum policy on addressing the issue of slum development that promotes upgrading rather than relocation.

Social Housing for the Poor

Relocation must be made a conditional option in the Policy. The Policy must therefore address the issue of prevention of slum development through social housing planning. Local governments must

be encouraged to build tenement housing for new migrants to cities on cost recovery basis. These could also be developed through private sector participation.

Regional Consultation Process for Restructuring the National Slum Policy

Consultations may be organized in different regions and different class sizes of cities to debate the issue of slum upgrading versus relocation based on findings of the study. This may then be used for designing a slum policy that discusses the different options and their impacts on poverty and city development.

Establishing Linkages to the Urban Renewal Mission and City Master Plans

Budget 2005 has provided large resources for 7 mega cities in the country and for the constitution of an urban renewal mission. Slums generally proliferate in these cities. It will be important for the Ministry of Urban Development to make linkages between the slum policy and renewal plans.

There must be greater interface between the process of master plan development in the cities and the Slum development policy and the two must feed into the urban renewal mission. Cities whose Master Plans are under process of development as in Delhi can use this as an opportunity to review the pro poor elements in the Master Plan.

City Master Plans must identify spaces around livelihood options for social housing schemes as also training institutions and information resource centers for livelihood development.

City master/renewal plans must also be integrated with city transport plans. In particular social housing schemes should be on transport corridors to provide links to different parts of the city.

Advocating Benefits of Upgrading and Discussing Costs of Relocation

It is important to advocate the long-term benefits of upgrading to city managers and sensitize them to the impact of relocation.

Relocation should be conditional and undertaken if and where absolutely essential and city renewal should not be seen as a valid reason for relocation. City managers must be asked for valid explanations for relocation where necessary and to provide proof that upgrading in the present conditions was not possible.

City level Slum Development Committees need to be constituted with proper representation of affected communities and their leaders, NGOs and the civil society groups to ratify decisions on relocation.

Participatory Planning for Upgrading

Planning for slum upgrading in all cities should be a participatory process in which the community members must be engaged. Community cooperative societies as in case of Mumbai should be included in developing plans for the building and selection of services and options based on current or future livelihood needs.

NGOs must be made partners in the process of slum upgrading, both for the purpose of organization, informing community of their Rights and responsibilities, developing systems for community management of services and to serve as regulator. Where possible, NGOs may be contracted to construct the houses or community facilities as in case of toilet building in Pune and Mumbai. Experience has shown that NGO built facilities are not only executed at lower costs but are better maintained.

Participatory Planning for Relocation

Relocation must be planned properly and managed with sensitivity. Like in the case of Mumbai where slum dwellers were organized into cooperatives for upgrading, housing cooperatives must be formed for relocation. Housing cooperatives should comprise of all residents in the settlement and exclude owners that have moved out of the slum settlement but have retained the structure in the hope of availing land during relocation.

The task of the housing cooperative would be to inform and educate the community about relocation and provide all support to ready people for the change.

Cooperative housing societies should be included in the planning and designing of the relocation plans.

Preserving Social Capital

Relocation must ensure preservation of the community social capital. Social capital can be maintained through formation of neighborhood groups prior to relocation to ensure old neighbors are provided adjacent plots. Community household mapping can be used as a tool to identify layouts of pre-relocated sites and residents of plots.

Distance between relocated and pre relocated site should not be more than 10 kms. This would ensure minimum displacement of livelihoods, schooling and social safety nets.

Livelihood plans must be integral to slum relocation /upgrading plans

At the city level, the concerned departments must develop comprehensive relocation plans. These must be more than just sites and services plans but include social infrastructure development and livelihood mapping.

In order to minimize household economic shock, city governments must develop livelihood opportunity maps at the proposed relocation sites. This should be followed by an opportunity-skill matching exercise and skill training programmes for earning members in the emerging professions/ opportunities in new neighborhoods preparatory to relocation.

Such centers may be developed in partnership with the NGOs at the upgraded sites as well.

Planning for Education and Health Services in Slum Relocation

Data from the study clearly points to the negative impact of relocation on education. Supreme Court orders regarding timing of slum relocation clearly state that examination timings should be avoided so that there is minimal disturbance to schooling.

Education planning needs to be clearly factored into slum relocation plans to prevent school drop out. Besides taking care of the timing of relocation, it must be ensured that school buildings are up and running before relocation and all children shifting here should be given automatic admission to the new schools. Process of obtaining the transfer certificates should be made automatic without each family needing to spend time on collecting the necessary documentation. Counseling classes must be held for children to help them cope with the loss of peer group and adjust to the new school and environments.

Improving Access to Credit

Livelihood development planning should include access to formal credit for the poor at affordable rates through setting up of community financing facilities. Credit should be available to the poor prior to relocation when they are still settled illegally (to pay for the plot), during relocation (to pay for house construction) and for new livelihood options. These will serve as shock absorbers to prevent slippage into poverty as a result of relocation.

Thrift and credit facilities should also be ensured in the upgraded sites to enable households to save up and pay maintenance costs.

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ANNEXURE I: SAMPLE SIZE

Table A1: List of identified sites (Relocated and Non-Relocated) and sample size in Delhi

	Colony Name	Code	Sample Size (No.of House Holds)		Colony Name	Code	Sample Size (No.of House Holds)
Re-located (Resettled) Site				**Non-Relocated site**			
1	Bakarawala	DA1	60	1	Gole Market	DB1	59
2	Bhavna	DA2	60	2	Yamuna Pusta	DB2	60
3	Bhalswa	DA3	60	3	Rohini	DB3	60
	TOTAL		**180**		TOTAL		**179**

Table A2: List of identified sites [Upgraded (resettled) and Non-Upgraded] and sample size in Mumbai.

	Colony Name	**Code**	**Sample Size (No.of House Holds)**		**Colony Name**	**Code**	**Sample Size (No.of House Holds**
Upgraded (Resettled) Site				**Non-upgraded site**			
1	Rohid Das Nagar, Mochi wada, MULUND	MA1	61	1	Rohid Das Nagar, Mochi wada, MULUND	MB1	57
2	Saidarshan, Sodawala Lane BORIVALI	MA2	82	2	Saidarshan, Sodawala Lane BORIVALI	MB2	51
3	Santhoshi Sion, DHARAVI SION	MA3	37	3	Santhoshi Sion, DHARAVI SION	MB3	123
	TOTAL		**180**		TOTAL		**231**

ANNEXURE II: DEMOGRAPHIC PROFILE

Table A3: Demographic particulars of selected sites in Delhi through household mapping

	Households	Total Males	Total Females	0-5		6-14		15-17	
				Male	Female	Male	Female	Male	Female
BAKARWALA	1000	1195	1058	838	776	1288	1018	649	537
BAWANA	915	1189	113	694	613	1066	660	637	427
BHALSWA	567	611	478	201	225	365	255	88	86
GOLE MARKET	839	1095	702)	255	231	283	245	136	100
YAMUNA PUSTA	1000	1188	1083	917	500	1813	771	375	208
ROHINI	867	962	1043	331	267	504	449	111	80

Table A4: Demographic particulars about the sample households in Delhi.

	Bakrawala	Bawna	Bhalswa	Gole Mkt	Yamuna Pusta	Rohini
Code	DA1	DA2	DA3	DB1	DB2	DB3
Households	60	60	60	59	60	60
Population	273	410	312	248	439	243
Male	147	229	170	143	249	133
Female	126	181	142	105	190	110
Children	128	207	140	105	299	125

Table A5: Demographic Profile of sample households in Mumbai thorough Household Mapping

	Households	Adults		Children					
				0-5 years		(School going category)			
						6-14 years		15-17 years	
		M	F	M	F	M	F	M	F
Mulund building (MA1)	280	348	404	116	117	213	263	174	113
Borivali building(MA2)	360	620	643	197	273	284	317	239	309
Dharavi Building (MA3)	504	864	825	195	242	366	371	257	278
Sub Total	1144	1832	1872	508	632	863	951	670	700
Mulund Slum (MB1)	434	638	750	277	348	370	462	345	448
Borivali Slum (MB2)	65	76	100	26	27	45	44	42	40
Dharavi Slum (MB3)	500	743	657	253	262	519	518	357	418
Sub Total	999	1457	1507	556	637	934	1024	744	906

Table A6:Demographic particulars about sample households in Mumbai

	MA1	MA2	MA3	MB1	MB2	MB3
	Rohiddas Nagar, Mochiwada, MULUND	Saidarshan, Sodawala Lane BORIVALI	Santhoshi Sion DHARAVI SION	Saishradha, Rohiddas Nagar MULUND	Saidarshan, Sodawala Lane Nutan Nagar BORIVALI	New Shivneri Coop Society DHARAVI SION
Sample House Holds	61	82	37	57	51	123
Persons	359	357	153	314	293	583
Male	175	188	81	165	147	327
Female	184	169	72	149	146	256
Children	104	95	44	122	97	169

MA: Non upgraded sites
MB: Upgraded sites

ANNEXURE III: INCOME

Table A7: Changes in average monthly household income of settlements IN Delhi (Rs/month)

Relocated Sites	Monthly household income		Non-Relocated Sites	Monthly household Income (current)
	After Relocation (current)	Before relocation		
Bakarwala(DA1)	3456.67	3505.00	Gole Market (DB1)	4138.98
Bawna (DA2)	5755.00	6311.67	Yamuna Pusta (DB2)	5271.67
Bhalswa (DA3)	3341.67	3355.00	Rohini (DB3)	3156.67
All	**4184.44**	**4390.56**	**ALL**	**4189.11**

Table A8: Changes in average monthly household income of settlements in Mumbai (Rs/month)

Upgraded Site	Monthly household income After upgradation (currnet)	Non-Upgraded Site	Monthly household income (current)
Mulund (MA1)	6852	Mulund (MB1)	4707
Borivali (MA2)	4780	Borivali (MB2)	4798
Dharavi sion(MA3)	5076	Dharavi sion(MB3)	5241
ALL	**5543**	**ALL**	**5011**

Table A9: Changes in per capita monthly income of settlemens in Delhi (Rs/month)

Relocated site	Per capita monthly income (Rs)		Non-Relocated Sites	Per capita monthly income (Rs) (current)
	After Relocation (current)	Before Relocation		
Bakarwala (DA1)	759.71	770.33	Gole Market(DB1)	984.68
Bawna (DA2)	842.2	923.66	Yamuna Pusta (DB2)	720.5
Bhalswa (DA3)	642.63	645.19	Rohini (DB3)	779.42
ALL	748.18	779.73	ALL	828.20

Table A10: Changes in per capita monthly income of settlements in Mumbai (Rs/month)

Upgraded site	Monthly per capita income After Upgradation (current)	Non-Upgraded Sites	Monthly per capita income (current)
Mulund (MA1)	1164	Mulund (MB1)	854
Borivali (MA2)	1098	Borivali (MB2)	835
Dharavision (MA3)	1227	Dharavision (MB3)	1106
ALL	1148	ALL	973

Table A11: Particulars about Earning Members of selected sites in Delhi through household Mapping

	Households	Total Males	Total Females	Assets				Savings	Pensions
				TV	Fridge	Scooter	Washing Machine		
Bakarwala	1000	1052	331	320	0	0	0	91	21
Bawana	915	1058	63	104	2	0	1	41	6
Bhalswa	567	599	88	180	63	21	7	31	2
Gole market	839	1072	97	455	130	40	12	191	28
Yamuna pusta	1000	1042	396	521	42	0	0	63	0
Rohini	867	955	658	311	38	17	11	38	6

Table A12: Particulars about Earning Members of selected sites in Delhi through household mapping

	Bakrawala	Bawna	Bhalswa	Relocated Total	Gole Mkt	Yamuna Pusta	Rohini	Non-Relocated Total
	DA1	DA2	DA3		DB1	DB2	DB3	
Earning Members	76 (27.80)	116 (28.20)	93 (29.80)	288 (28.90)	93 (37.50)	91 (20.7)	91 (37.40)	275 (29.50)

Male	69 (46.90)	101 (44.10)	76 (44.70)	246 (45.00)	90 (62.9)	76 (30.5)	64 (48.10)	230 (43.80)
Female	7 (5.55)	15 (8.20)	17 (11.9)	39 (8.6)	3 (2.8)	15 (7.8)	27 (24.5)	45 (11.10)

Table A13: Earning members and Household Assets of Settlement in Mumbai (Household Mapping)

	Earning Members		Assets					Savings	
	Male	Female	TV	Fridge	Three wheeler	Washing Machine	Others	LIC, Cooperatives	Pensions
Mulund building	382	117	250	82	20	28	6	143	84
Borivali building	493	230	253	154	70	78	9	316	285
Dharavi Building	737	264	453	153	71	13	0	165	58
Sub Total	**1612**	**611**	**956**	**389**	**161**	**119**	**15**	**624**	**427**
Mulund Slum	480	333	318	167	90	78	12	210	111
Borivilli Slum	126	62	48	17	10	9	0	49	30
Dharavi Slum	825	247	429	116	47	70	1	164	74
Sub Total	**1431**	**642**	**795**	**300**	**147**	**157**	**13**	**423**	**215**

Table A14: Particulars about Earning Members of selected sites in Mumbai through household mapping

Particulars	**MA1**	**MA2**	**MA3**	**Upgraded Total**	**MB1**	**MB2**	**MB3**	**Non-upgraded Total**
	Mulund	Borivali	Dharavi sion		Mulund	Borivali	Dharavi sion	
Earning members(no.)	117 (32.59)	126 (35.29)	46 (30.07)	**289 (33.26)**	104 (33.12)	109 (37.20)	177 (30.36)	**390 (32.77)**
Male	98 (56.00)	96 (51.06)	45 (55.56)	**239 (53.83)**	74 (44.85)	87 (59.18)	168 (51.38)	**329 (51.49)**
Female	19 (10.33)	30 (17.75)	1 (1.39)	**50 (11.76)**	30 (20.13)	22 (15.07)	9 (3.52)	**61 (11.07)**

Note: Figures in paranthesis shows the percentage share to the corresponding population.

ANNEXURE IV: EXPENDITURE

Table A15: Average monthly household expenditure of selected relocated and non-relocated sites in Delhi.

Relocated Sites	Monthly Expenditure		Non-Relocated Sites	Monthly Expenditure
	Before relocation	After Relocation (Current)		(Current)
Bakarwala DA1)	2838	3044	Gole Market (DB1)	3900
Bhawna (DA2)	4437	4742	Yamuna Pusta (DB2)	3625
Bhalswa (DA3)	3499	3401	Rohini (DB3)	3008
ALL	3591	3729	ALL	3511

Table A16:Average monthly household expenditure in the selected upgraded and non-upgraded sites in Mumbai

Upgraded Sites	Monthly Expenditure (Rs./month)		Non-Upgraded Sites	Monthly Expenditure (Current)
	Before upgradation	After Upgradation (current)		
Mulund (MA1)	4136	6424	Mulund (MB1)	4421
Borivali (MA2)	4819	5406	Borivali (MB2)	4517
Dharavi sion(MA3)	5258	4914	Dharavi sion(MB3)	4907
ALL	4738	5581	All	4615
Note: The above estimates do not include interest payments to loans and borrowings				

Table A17Particulars about monthly household expenditure in relocated and non-relocated sites in Delhi

Set I: Bakarawala (DA1) and Gole Market (DB1)(Rs./month)

ITEM	RELOCATED SITE BAKARAWALA (DA1)				NON RELOCATED SITE GOLE MARKET (DB1)	
	Before		After (Current)		(Current)	
Expenditure	Amount	Share (%)	Amount	Share %	Amount	Share %
Food	1705	60.08	1500.0	49.27	1816.95	46.59
Rent/housing	0	0.00	300.0	9.85	486.36	12.47
Clothing	120	4.24	94.6	3.11	88.21	2.26
Education	58	2.04	95.3	3.13	134.68	3.45
Travel	166	5.85	405.0	13.30	267.59	6.86
Health	67	2.37	125.5	4.12	70.50	1.81
Electricity	20	0.70	232.0	7.62	0.00	0.00
Water	0	0.00	0.0	0.00	0.00	0.00
Entertainment	120	4.23	119.5	3.93	211.54	5.42
Festivals	232	8.17	172.2	5.66	184.83	4.74
Others	350	12.33	0.0	0.00	639.47	16.40
Total	**2838**	**100.00**	**3044.2**	**100.00**	**3900.13**	**100.00**

Table A18:Particulars about monthly household expenditure in relocated and non-relocated sites in Delhi

Set II: Bhawna (DA2) and Yamuna Pusta (DB2) (Rs./month)

ITEM	RELOCATED SITE BHAWNA (DA2)				NON- RELOCATED SITE YAMUNA PUSTA (DB2)	
	Before		After (current)		Current	
Expenditure	Amount	%	Amount	%	Amount	%
Food	1496.67	33.73	1316.67	27.77	1830.51	50.48
Rent/housing	0	0	0	0	318.75	8.79
Clothing	589.43	13.29	200	4.22	163.31	4.5
Education	231.94	5.23	232.04	4.89	197.37	5.44
Travel	388.65	8.76	1197.9	25.26	156.17	4.31
Health	286.7	6.46	574.36	12.11	215.51	5.94
Electricity	123.47	2.78	158.33	3.34	106.03	2.92
Water		0	0	0		0
Entertainment	186.88	4.21	185	3.9	182.5	5.03
Festivals	698.36	15.74	633.3	13.35	186.36	5.14
Others	434.72	9.8	244.44	5.15	269.41	7.43
Total	**4436.8**	**100**	**4742.05**	**100**	**3625.9**	**100**

Table A19:Particulars about monthly household expenditure in relocated and non-relocated sites in Delhi

Set III: Bhalswa (DA3) and Rohini (DB3) (Rs./month)

ITEM	DA3				DB3	
	Before		After (Current)		Current	
Expenditure	Amount	%	Amount	%	Amount	%
Food	1865.83	53.33	1538.33	45.24	1451.67	48.26
Rent/housing	500	14.29	533.33	15.68	350	11.64
Clothing	192.63	5.51	150.74	4.43	172.83	5.75
Education	158.89	4.54	137.14	4.03	119.41	3.97
Travel	122.63	3.5	358.55	10.54	167.11	5.56
Health	156.94	4.49	138.81	4.08	85.41	2.84
Electricity	15	0.43	173.98	5.12	200	6.65
Water		0		0		0
Entertainment	125	3.57	125	3.68	157.78	5.25
Festivals	217.2	6.21	115.43	3.39	113.81	3.78
Others	144.78	4.14	129.26	3.8	190	6.32
Total	**3498.91**	**100**	**3400.58**	**100**	**3008.02**	**100**

Table A20: Particulars about monthly household expenditure in upgraded sites and non-upgraded sites in Mumbai

Set I: Mulund (MA1) & Mulund (MB1)

ITEM	Upgraded sites		Non-upgraded site
	Before Upgradation	After upgradation (current)	Current
Food	2566	3497	1947
Rent&housing	144	296	550
Cloth	202	355	481
Education	252	522	657
Travel	225	386	214
Health	282	360	131
Electricity	167	291	385
Water	63	98	56
Entertainment &others	235	619	NA
Total	**4136**	**6424**	**4421**

Table A21: Particulars about monthly household expenditure in upgraded sites and non-upgraded sites in Mumbai

Set II: Borivali (MA2) & Borivali (MB2)

ITEM	Upgraded sites		Non-upgraded sites
	Before upgradation	After Upgradation (current)	Current
Food	1601	1955	1706
Rent&housing	1340	1420	1100
Cloth	555	508	563
Education	411	335	493
Travel	285	246	159
Health	155	185	150
Electricity	170	249	235
Water	52	233	111
Entertainment &others	250	275	NA
Total	**4819**	**5406**	**4517**

Table A22: Particulars about monthly household expenditure in upgraded sites and non-upgraded sites in Mumbai

Set III: Dharavi sion (MA3) & Dharavi sion (MB3)

ITEM	Upgraded site (MA3)		Non-upgraded site (MB3)
	Before upgradation	After upgradation current	Current
FOOD	2962	2200	2552
RENT&HOUSING	347	625	398
CLOTH	217	166	285
EDUCATION	581	1066	460
TRAVEL	281	233	285
HEALTH	281	166	278
ELECTRICITY	291	283	312
WATER	91	0	104
ENTERTAINMENT &OTHERS	207	175	233
Total	**5258**	**4914**	**4907**

ANNEXURE V: HOUSING

Table A23: Condition of Housing and Ownership status in settlements in Delhi through household mapping

	Condition of Housing			Ownership		
	Permanent	Semi Permanent	Temporary	Owned	Rented	Others
BAKARWALA	68	492	440	611	317	72
BAWANA	1	Not Reported	913	913	Not reported	Not reported
BHALSWA						
GOLE MARKET	102	237	201	307	158	18
YAMUNA PUSTA						
ROHINI	16	503	349	822	45	0

Table A24: Condition of Housing and Ownership status in settlements in Mumbai through household mapping

	Condition of Housing			Ownership		
	Permanent	Semi Permanent	Temporary	Owned	Rented	Others/relatives
Mulund building	280	0	0	256	16	6
Borivali building	360	0	0	343	17	0
Dharavi Building	504	0	0	453	43	8
Sub Total	**1144**	**0**	**0**	**1052**	**76**	**14**
Mulund Slum	280	0	0	256	16	8
Borivali Slum	5	60	0	58	5	3
Dharavi Slum	93	406	1	445	38	17
Sub Total	**378**	**466**	**1**	**759**	**59**	**28**

ANNEXURE VI: DISTANCE AND TRANSPORTATION

Table A25: Changes in distance to work place for earning members after Relocation in Delhi.

Change in Distance	Bakrawala (DA1)		Bawana (DA2)		Bhalswa (DA3)	
	Number of Earning Members	Percentage	Number of Earning Members	Percentage	Number of Earning Members	Percentage
Increase	34	51	70	82	30	47
Decrease	22	33	3	4	8	12
No change	11	16	12	14	26	41
Total	67	100	85	100	64	100

Table A26: Mode of travel to the work place by earning members

Mode of travel	Bakrawala (DA1)		Bawana (DA2)		Bhalswa (DA3)	
	After	Before	After	Before	After	Before
Private Conveyance Cycle, Scooter	2 (2.90)	2 (2.940	0 (0.00)	1 (1.25)	10 (12.05)	7 (8.54)
Local Bus	49 (71.01)	39 (57.35)	77 (91.67)	33 (41.25)	53 (63.86)	35 (42.68)
Auto Rickshaw	1 (1.45)	1 (1.47)	0 (0.00)	3 (3.75)	1 (1.20)	1 (1.22)
Cycle rickshaw	1 (1.45)	1 (1.47)	2 (2.38)	27 (33.75)	5 (6.02)	5 (6.10)
On foot	16 (23.19)	25 (36.76)	3 (3.57)	10 (12.50)	12 (14.46)	32 (39.02)
Others	0 (0.00)	0 (0.00)	2 (2.38)	6 (7.50)	2 (2.41)	2 (2.44)
All	69 (100.00)	68 (100.00)	84 (100.00)	80 (100.00)	83 (100.00)	82 (100.00)

Note: Figures in parenthesis shows the percentage share to total

ANNEXURE VII: LOANS

Table A27: Reasons for availing loans

	PLOT	HOUSING	MARRIAGE	SHIFTING	OCCUPATION	HEALTH	ASSETS
Bhalawa dairy	36	32	3	0	0	1	0
Bjj colony	38	25	2	6	4	18	13
Jj colony bakkarwal	15	21	0	0	0	0	0
Bangali basti yamuna pusta	0	0	3	0	3	7	1
G point-i bks marg	0	0	0	0	0	0	0
Indira camp rohini sector-3	0	0	0	0	0	0	0

Table A28: Estimated interest payment for loan on plot and house by the relocated household in Delhi Rs/month)

Item	Bakrawala DA1	Bhawna DA2	Bhalswa DA3	ALL
Plot	183.08	687.00	548.50	472.86
House	1182.67	325.00	1524.73	1010.8
Total	1365.75	1012.00	2073.23	1483.66

ANNEXURE VIII: EDUCATION

Table A29: Children under various age groups and their educational status in Delhi

	0-5 years		6-14 years		15-17 years	
	M	F	M	F	M	F
Bakarwala	838	776	1288	1018	649	537
Bawana	694	613	1066	660	637	427
Bhalswa	201	225	365	255	88	86
Gole market	255	231	283	245	136	100
Yamuna pusta	917	500	1813	771	375	208
Rohini	331	267	504	449	111	80

Table A30: Children under various age groups and their educational status in Mumbai through household mapping

	School going		Non School Going		Dropouts		Working and going to school	
	M	F	M	F	M	F	M	F
Mulund building	270	261	270	261	63	81	53	19
Dharavi Building	457	385	82	102	77	21	57	55
Borivali building	360	397	46	63	103	77	90	107
Sub total	**1087**	**1043**	**398**	**426**	**243**	**179**	**200**	**181**
Mulund Slum	425	480	81	122	210	205	26	36
Dharavi Slum	466	418	119	160	222	35	56	178
Borivali Slum	55	47	12	16	19	21	15	25
Sub total	**946**	**945**	**212**	**298**	**451**	**261**	**97**	**239**

Table A31: Dropouts in the resettled and non-resettled sites in Delhi (Household Survey)

Sites	Primary	Middle	Secondary	Total
Bhalawa dairy	22	22	4	48
Bawana	7	9	0	16
Bakkarwal	6	9	0	15
Yamuna pusta	22	42	1	65
Gole market	0	3	1	4
Rohini	0	0	0	0

Table A302: Reasons for dropping out of School in the resettled and non resettled sites in Delhi (Household Survey)

	School far	Transfer certificate not available	Small children at home	Child don't want to go to new school	High transport cost	Others
Bhalawa dairy	0	0	0	0	0	36
Bjj colony	9	0	0	4	0	3
Jj colony bakkarwal	7	0	0	3	0	5
Yamuna pusta	0	0	0	0	0	65
Gole market	0	0	0	3	0	1
Rohini	0	0	0	0	0	0

ANNEXURE IX: LEVEL OF SERVICE

Table A33: Water Supply in Delhi

	Piped water supply	Household handpump	Community tap	Community handpump	Tanker
Bangali basti yamuna pusta	0	0	60	0	0
Bhalawa dairy	0	0	60	0	0
Bjj colony	0	0	60	0	0
G point-i bks marg	45	0	14	0	0
Indira camp rohini sector-3	0	0	60	0	0
Jj colony bakkarwal	0	0	60	0	0

Table A34: Water Supply in Mumbai

	Piped water supply	Household handpump	Community tap	Community handpump	Tanker
Rohidas nagar mulund	**61**	**0**	**0**	**0**	**0**
Saisradha bld. Rohidas nagar, mulund	4	0	53	0	0
Sodwal lane nutan ngr, boravili	0	0	51	0	0
Sai darshan, sodwal lane boravili	**67**	**0**	**15**	**0**	**0**
New shivneri co-op soc	**81**	**0**	**42**	**0**	**0**
Santoshion dharavision	8	0	29	0	0

Table A35: Toilets: Delhi

	INDIVIDUAL	COMMUNITY
Bangali basti yamuna pusta	0	60
Bhalawa dairy	0	60
Bjj colony	0	60
G point-i bks marg	0	59
Indira camp rohini sector-3	0	60
Jj colony bakkarwal	0	60

Table A36: Toilets: Mumbai

	INDIVIDUAL	COMMUNITY
Rohidas nagar mulund	61	0
Saisradha bld. Rohidas nagar, mulund	4	53
Sodwal lane nutan ngr, borivili	0	51
Sai darshan, sodwal lane borivili	67	15
New shivneri co-op society	87	36
Santoshion dharavision	3	34

Table A37: Drainage: Delhi

	Covered	Open	Under Construction	No Drainage
Bangali basti yamuna pusta	0	60	0	0
Bhalawa dairy	0	60	0	0
Bjj colony	7	14	0	39
G point-i bks marg	44	15	0	0
Indira camp rohini sector-3	0	60	0	0
Jj colony bakkarwal	0	60	0	0

Table A38: Solid Waste Management: Delhi

	YES	NO
Bangali basti yamuna pusta	10	0
Bhalawa dairy	0	60
Bjj colony	3	57
G point-i bks marg	58	1
Indira camp rohini sector-3	0	60
Jj colony bakkarwal	0	60

Table A39: Electricity: Delhi

	YES	NO
Bangali basti yamuna pusta	57	3
Bhalawa dairy	0	60
Bjj colony	0	60
G point-i bks marg	0	59
Indira camp rohini sector-3	0	60
Jj colony bakkarwal	60	0

Table A40: Electricity: Mumbai

	YES	NO
Rohidas nagar mulund	**60**	**1**
Saisradha bld. Rohidas nagar, mulund	5	52
Sodwal lane nutan ngr, boravili	0	51
Sai darshan, sodwal lane boravili	**82**	**0**
New shivneri co-op soc	**110**	**13**
Santoshion dharavision	34	3

Table A41: Public Phones: Delhi

	YES	NO
Bangali basti yamuna pusta	60	0
Bhalawa dairy	17	43
Bjj colony	59	0
G point-i bks marg	32	27
Indira camp rohini sector-3	0	60
Jj colony bakkarwal	60	0

Table A42: Distance from Nearest Bus Stops: Delhi

	<250	250-500	500-750	750>
Bangali basti yamuna pusta	0	0	0	60
Bhalawa dairy	0	58	0	2
Bjj colony	18	41	0	1
G point-i bks marg	0	50	9	0
Indira camp rohini sector-3	0	60	0	0
Jj colony bakkarwal	0	60	0	0

Table A43:Roads and Lanes: Delhi

	YES	NO
Bangali basti yamuna pusta	60	0
Bhalawa dairy	60	0
Bjj colony	11	0
G point-i bks marg	32	0
Indira camp rohini sector-3	60	0
Jj colony bakkarwal	60	0

Table A 44: Roads and Lanes : Mumbai

	YES	NO
Rohidas nagar mulund	**61**	
Saisradha bld. Rohidas nagar, mulund	57	
Sodwal lane nutan ngr, boravili	51	
Sai darshan, sodwal lane boravili	**79**	**3**
New shivneri co-op soc	**118**	**5**
Santoshion dharavision	37	

Table A 44.a: Level of Social Safety in Delhi through Household survey

Number of Thefts in the selected settlements

	BEFORE	AFTER	M.SITE
DA1	0	0	0
DA2	11	38	0
DA3	0	2	0
ALL	**11**	**40**	**0**

Number of households feeling insecure

	BEFORE	AFTER	M.SITE
DA1	1	1	0
DA2	3	17	6
DA3	0	54	0
ALL	**4**	**72**	**6**

Number of children feeling insecure

	BEFORE	AFTER	M.SITE
DA1	1	59	0
DA2	3	15	4
DA3	0	54	0
ALL	**4**	**128**	**4**

ANNEXURE X: POVERTY

Table A45: People below poverty line in the selected sites in Delhi.

Relocated sites	category	After relocation (current)		Before relocation		Non relocated site	(current)	
		Number	Per cent	Number	Per cent		Number	Per cent
Bakrawala(DA1)	Poor	78	28.57	78	28.57	Gole Market (DB1)	42	16.87
	Non-poor	195	71.43	195	71.43		207	83.13
	Total	273	100	273	100		249	100.00
Bawana (DA2)	Poor	158	38.54	119	29.02	Yamuna Pusta (DB2)	179	40.77
	Non-Poor	252	61.46	291	70.98		260	59.23
	Total	410	100.00	410	100.00		439	100.00
Bhalswa (DA3)	Poor	133	42.77	126	40.51	Rohini (DB3)	91	37.45
	Non-poor	178	57.23	185	59.49		152	62.55
	Total	311	100.00	311	100.00		243	100.00
All	Poor	369	37.12	323	32.49	ALL	312	33.51
	Non-Poor	625	62.88	671	67.51		619	66.49
	Total	994	100.00	994	100.00		931	100.00

Table A46: Head count index (P_0) of poverty in the selected sites in Delhi

Relocated site	Head count index		Non relocated site	Head count index
	Before Relocation	After Relocation		
Bakarawala (DA1)	0.2857	0.2857	Gole Market	0.1687
Bawna(DA2)	0.2902	0.3854	Yamuna Pusta	0.4077
Balswa(DA3)	0.4051	0.4277	Rohini	0.3745
ALL	0.3249	0.3712	ALL	0.3351

Table A47: Number of core poor, intermediate poor, transitional poor and others in each identified relocated and non-relocated settlements in Delhi

Percapita Income (Rs/month)	Category	Bakarwala(DA1)		Gole Market(DB1)	Bawna(DA2)		Yamuna Pusta(DB2)	Balswa(DA3)		Rohini DB3
		After	Before	NR.site	After	Before	NR.Site	After	Before	NR.site

>253	Core Poor	1	1	1	6	3	4	6	5	1
253-506	Intermediate Poor	14	15	7	14	12	20	18	16	16
506-759	Transitional Poor	19	18	14	13	14	16	16	20	9
>759	Others	26	26	37	27	31	20	20	19	34
		60	60	59	60	60	60	60	60	60

Table A48: Number of Poor and Non-poor in Upgraded and Non-upgraded sites in Mumbai

Category	Upgraded Site				Non-upgraded sites			
	Mulund MA1	Borivali MA2	Dharavision MA3	MA All	Mulund MB1	Borivali MB2	Dharavision MB3	MB All
Poor	29	15	12	56	93	63	85	241
Non-Poor	330	342	141	813	221	230	493	944
Total	359	357	153	869	314	293	583	1190

Note: Poverty Line: Maharashtra Urban: Rs.540 per capita per month.

Table A49: Percentage of Poor and Non-poor in Upgraded and Non-upgraded sites in Mumbai

Category	Upgraded Site				Non-upgraded sites			
	Mulund MA1	Borivali MA2	Dharavision MA3	MA All	Mulund MB1	Borivali MB2	Dharavision MB3	MB All
Poor	8.08	4.20	7.84	6.44	29.62	21.50	14.58	20.25
Non-Poor	91.92	95.80	92.16	93.56	70.38	78.50	84.56	79.33
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table A50: Number of households in core poor, intermediate poor, transitional poorand others in upgraded and non upgraded sites in Mumbai

Category	Income percapita per month (Rs)	Upgraded Sites				Non-upgraded sites			
		Mulund (MA1)	Borivali (MA2)	Dharavi Sion (MA3)	MA-ALL	Mulund (MB1)	Borivali (MB2)	Dharavision (MB3)	MB ALL
Core Poor	<270	0	0	1	1	2	1	0	3
Intermediate Poor	270to540	3	3	1	7	11	8	13	32
Transitional Poor	540 to810	14	27	4	45	15	15	28	58
Others	>810	44	52	31	127	29	27	82	138
Total Households(No.)		61	82	37	180	57	51	123	231

Table A51: Percentage of households in core poor, intermediate poor, transitional poor and others in upgraded and non upgraded sites in Mumbai

Category	Income percapita per month (Rs)	Upgraded Sites				Non-upgraded sites			
		Mulund (MA1)	Borivali (MA2)	Dharavi Sion (MA3)	MA-ALL	Mulund (MB1)	Borivali (MB2)	Dharavision (MB3)	MB ALL
Core Poor	<270	0.00	0.00	2.70	0.56	3.51	1.96	0.00	1.30
Intermediate Poor	270to540	4.92	3.66	2.70	3.89	19.30	15.69	10.57	13.85
Transitional Poor	540 to810	22.95	32.93	10.81	25.00	26.32	29.41	22.76	25.11
Others	>810	72.13	63.41	83.78	70.56	50.88	52.94	66.67	59.74
Total Households(%)	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table A52: Head Count Index Mumbai

Head Count Index - Selected sites in Mumbai

Upgraded		Non-Upgraded	
Site	Head count Index	Site	Head count Index
MA1	0.0808	MB1	0.2962
MA2	0.0420	MB2	0.2150
MA3	0.0784	MB3	0.1458
ALL	0.0644	ALL	0.2025

Table A 52.a : Sen Index

		P_o	G^p	μ^p	z	P_s
	Settlement	**Head Count Index**	**Gini Coefficient of poor**	**percapita income of poor**	**poverty line**	**Sen Index**
Bakarwala	DA1	0.2857	0.4229	390	505	0.158373
Bawna	DA2	0.3854	0.2566	357	505	0.182855
Bhalswa	DA3	0.4277	0.1169	340	505	0.173392
Delhi- Relocated	**DA-ALL**	**0.3712**	**0.4379**	**360**	**505**	**0.222458**
Gole Market	DB1	0.1687	0.3891	380	505	0.091152
Yamuna Pusta	DB2	0.4077	0.0406	372	505	0.119554
Rohini	DB3	0.3745	0.2465	396	505	0.153225
Delhi- Non Relocated	**DB-ALL**	**0.3351**	**0.1675**	**382**	**505**	**0.124077**
Mulund	MA1	0.0808	0.3334	451	540	0.035804
Borivali	MA2	0.0420	0.2380	472	540	0.014033
Dharavi	MA3	0.0784	0.4950	250	540	0.060094
Mumbai-Upgraded	**MA-ALL**	**0.0644**	**0.3906**	**409**	**540**	**0.034698**

Mulund	MB1	0.2962	0.3255	398	540	0.148941
Borivali	MB2	0.2150	0.3021	422	540	0.097743
Dharavi	MB3	0.1458	0.3742	416	540	0.075512
Mumbai_Nonupgraded	**MB-ALL**	**0.2025**	**0.3223**	**405**	**540**	**0.09958**

Table A52.b : Changes in income: Number of Households Affected in Delhi

Income	DA1	DA2	DA3	All
Increase	3	9	4	16
Decrease	3	25	5	33
No change	54	26	52	132
Total	60	60	60	180

ANNEXURE XI: QUALITATIVE ANALYSIS THROUGH PLA TECHNIQUES

MATRIX RANKING : Delhi

BAKKARWALLA AND GOLE MARKET

	Mandi	Market	Factory	Construction Site
Conveyance	4	2	4	2
Opportunities	3	2	2	3
Skill Required	1	1	4	1
Travel Time	4	2	4	2

Fig A.1 Bakkarwalla: Livelihood

	Mandi	**Market**	**Factory**	**Construction Site**
Conveyance	3	1	4	4
Opportunities	4	4	1	3
Skill Required	2	2	3	4
Travel Time	3	1	2	5

Fig A.2 Gole Market: Livelihood

	Primary	**Middle**	**Secondary**	**Senior Secondary**	**College**
Staff	2	3	3	4	4
Facilities	1	3	3	3	5
Expenditure	1	2	2	3	4
Quality	2	3	3	3	4
Distance	1	2	3	3	5

Fig A.3 Bakkarwalla: Education

	Primary	**Middle**	**Secondary**	**Senior Secondary**	**College**
Staff	4	4	4	4	4
Facilities	3	4	4	4	4
Expenditure	2	4	4	4	5
Quality	4	3	4	4	4
Distance	2	2	5	5	1

Fig A.4 Gole Market: Education

	Health Centre	**Hospital**	**Private Doctor**	**NGO**	
Distance	4	5	2	2	13
Staff	4	4	1	2	11
Facilities	4	4	2	2	12
Conveyance	4	5	1	1	11

Trained staff	4	4	1	1	10
Expenditure	3	3	4	2	12

Fig A.5 Bakkerwalla: Health

	Health Centre	**Hospital**	**Private Doctor**	**NGO**
Distance	2	3	1	2
Staff	3	3	4	4
Facilities	3	5	1	4
Conveyance	2	1	1	3
Trained staff	4	4	2	3
Expenditure	1	2	4	1

Fig A.6 Gole Market: Health

	Money Lender	**Cooperative**	**Owner**	**Relative**
Amount	4	5	3	2
Rate of Interest	5	3	2	2
Documents required	2	4	2	2
Security	5	5	1	1
Time	1	4	2	2

Fig A.7 Bakkerwalla: Loan

	Money Lender	**Cooperative**	**Owner**	**Relative**
Amount	3	4	3	2
Rate of Interest	5	3	1	1
Documents required	2	3	1	1
Security	4	4	2	2
Time	2	4	2	2

Fig A.8 Gole Market: Loan

MATRIX RANKING: BAWANA AND YAMUNA PUSHTA

	Mandi	Grain Mandi	Factory	Manufacturing Units	Farm house
Conveyance	4	2	1	5	3
Opportunities	4	3	1	2	5
Skill	5	5	3	2	1
Expenditure on Travel	4	5	4	3	1
Time	5	4	5	3	1

Fig A.9 Livelihood: Bawana

	Rickshaw	Vegetable head load carrying	Shop	Private Jobs	Government Jobs

Conveyance	5	5	5	3	1
Opportunities	5	4	3	2	1
Skill	5	5	3	2	1
Expenditure on travel	5	2	5	2	1
Time	5	4	5	2	1

Fig A.10 Livelihood: Yamuna Pushta

	Primary	Middle	Secondary	Senior Secondary	College
Distance	5	3	3	1	1
Staff	5	3	1	1	1
Facility	4	3	2	2	1
Expenditure	5	4	2	1	1
Quality	3	2	1	1	1

Fig A.11 Yamuna Pushta: Education

	Primary	Middle	Secondary	Senior Secondary	College
Distance	5	4	2	2	1
Staff	5	3	2	1	4
Facility	5	3	2	1	4
Expenditure	5	3	2	2	1
Quality	1	2	3	4	5

Fig A.12 Education: Bawana

	Money Lender	Cooperative	Owner/Employee	Relative	Banks
Amount	5	2	3	4	1
Rate of Interest	1	2	3	4	5
Documents required	5	4	2	3	1
Security	4	2	1	5	1
Time	1	3	4	5	2

Fig A.13 Loan: Bawana

	Money Lender	Cooperative	Owner/Employee	Relative	Banks
Amount					
Rate of Interest					
Documents required					
Security					
Time					

Fig A.14 Loan: Yamuna Pushta

	Health Centre	**NGO**	**Private Doctor**	**Nursing home**	**Government Hospital**
Distance	5	4	5	3	1
Expenditure	5	5	2	1	3
Trained Staff	3	2	4	5	1
Facilities	1	4	2	5	3

Fig A.15 **Health: Bawana**

	Health Centre	NGO	Private Doctor	Nursing home	Government Hospital
Distance	5	3	4	1	4
Expenditure	5	4	2	1	3
Trained Staff	3	2	4	5	1
Facilities	1	2	3	4	5

Fig A.16 **Health Yamuna Pushta**

MATRIX RANKING: ROHINI AND BHALASWA

	Mandi	Market	Factory	Construction work	Household work
Expenditure on travel	4	5	4	4	5
Opportunities	2	3	1	4	3
Skill	5	4	4	5	5
Time	4	5	5	2	5

Fig A.17 Livelihood: Rohini

	Mandi	Market	Factory	Construction work	Household work
Expenditure on travel	4	3	4	3	3
Opportunities	2	1	2	3	3
Skill	5	4	3	4	5
Time	4	3	4	4	3

Fig A.18 Livelihood: Bhalaswa

	Primary	Middle	Secondary	Senior Secondary	College
Distance	5	4	4	4	1
Trained Staff	5	5	5	5	5
Facility	3	3	3	4	5
Expenditure	5	4	4	3	2
Quality of Education	2	2	4	4	4

Fig A.19 Education: Rohini

	Primary	Middle	Secondary	Senior Secondary	College
Distance	5	3	3	3	1
Trained Staff	5	5	5	5	5
Facility	1	2	2	3	4
Expenditure	5	4	4	3	2
Quality of Education	1	1	2	3	4

Fig A.20 Education: Bhalswa

	Health Centre	Government Hospital	Private Doctor	Registered Medical Practitioners	NGO
Distance	5	4	4	5	-
Trained Staff	3	5	4	5	-
Facilities	2	5	3	2	-
Expenditure	5	5	1	2	-
Behavior	1	1	5	5	-

Fig A.21 Health: Rohini

	Health Centre	Government Hospital	Private Doctor	Registered Medical Practitioners	NGO
Distance	5	4	-	5	5
Trained Staff	4	5	-	1	3
Facilities	1	3	-	3	1
Expenditure	1	2	-	3	1
Behavior	1	1	-	5	2

Fig A.22 Health: Bhalaswa

	Money Lender	Cooperative	Owner/Employee	Relative	Banks
Amount	1	3	3	3	5
Rate of Interest	1	4	5	4	5
Documents required	5	5	5	5	1
Security	4	5	5	5	5

Fig A.23 Loan: Rohini

	Money Lender	Cooperative	Owner/Employee	Relative	Banks
Amount	2	3	2	2	5
Rate of Interest	1	3	5	4	5
Documents required	2	2	1	1	5
Security	4	5	5	5	1

Fig A.24 Loan: Bhalaswa

MATRIX RANKING MUMBAI

	Primary	**Middle**	**Secondary**	**Senior Secondary**	**College**
Distance	5	5	4	4	1
Teacher's behavior	4	3	1	1	2
Facilities	5	4	3	2	1
Expenditure	5	3	2	2	1
Quality of Education	5	4	3	2	1

Fig A.25 Mulund: Education

	Health Centre	**NGO**	**Private Doctor**	**Nursing Home**	**Government Organisation**
Distance	3		5	4	1
Expenditure on Medicines	3		4	5	2
Facilities	1		2	5	4
Staff	2		4	5	1

Fig A.26 Health

	Money Lender	Committees	Owner	Relatives	Government Organisations
Amount	3	2	4	5	1
Rate of Interest	1	2	0	0	3
Ease	5	2	3	4	1
Security	2	4	3	5	1
Time	2	3	4	5	1

Fig A.27 Loan

	Factories	Own Enterprise	Shops	Private Jobs	Government Jobs
Transportation					
Convenience					
Capability					
Time taken					

Fig A.28 Livelihood

	Money Lender	Committees	Owner	Relatives	Government Organisations
Amount	3	2	4	5	1
Rate of Interest	1	2	5	3	3
Ease	5	2	3	4	1
Security	2	4	3	5	1
Time	2	3	4	5	1

Fig A.29 Borivili: Loan

	Health Centre	NGO	Private Doctor	Nursing Home	Government Organisation
Distance			5	4	1
Expenditure on Medicines			4	5	2
Facilities			2	5	4
Staff			4	5	1

Fig A.30 Health

	Factory	Own Enterprise	Shop	Private Jobs	Governemnt Jobs
Conveyance	4	2	3	5	1
Facility	4	3	2	5	1
Travel cost	4	3	2	5	1
Skill	5	4	2	3	1
Travel Time	4	5	2	3	1

Fig A.31 Livelihood

EDUCATION

Dharavi

SEASONALITY DIAGRAMS

	2003					2004						
	A	S	O	N	D	J	F	M	A	M	J	J
EMPLOYMENT												
ASSETS												
SAVINGS												
ACCESSING LOAN												
QUALITY OF EDUCATION												
HEALTH												

Fig A.32 BAKKERWALA

	2003					2004						
	A	S	O	N	D	J	F	M	A	M	J	J
EMPLOYMENT												
ASSETS												
SAVINGS												
LOAN												
EDUCATION												
HEALTH												

Fig A.33 GOLE MARKET

Legend						
	Highest					Lowest
Relocation month						

	2003											
	J	F	M	A	M	J	J	A	S	O	N	D
EMPLOYMENT												
EDUCATION												
HEALTH												
MEANS OF TRAVEL												
LOAN												

Fig A.34 Seasonality: Yamuna Pushta

	2003												2004					
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	M
EMPLOYMENT																		
EDUCATION																		
HEALTH																		
SAVINGS																		
MEANS OF TRAVEL																		
LOAN																		

Fig A.35 Seasonality: Bawana

	2003				2004							
	S	O	N	D	J	F	M	A	M	J	J	A
EMPLOYMENT												
EXPENDITURE ON EDUCATION												
EXPENDITURE ON HEALTH												
EXPENDITURE ON TRAVEL												
LOAN												

Fig A.36 Seasonality diagram: Rohini

	2000				2001												2002		
	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
EMPLOYMENT																			
EXPENDITURE ON EDUCATION																			
EXPENDITURE ON HEALTH																			
EXPENDITURE ON TRAVEL																			
LOAN																			

Fig A.37 Seasonaility Diagram: Bhalaswa

Seasonality Diagrams: Mumbai

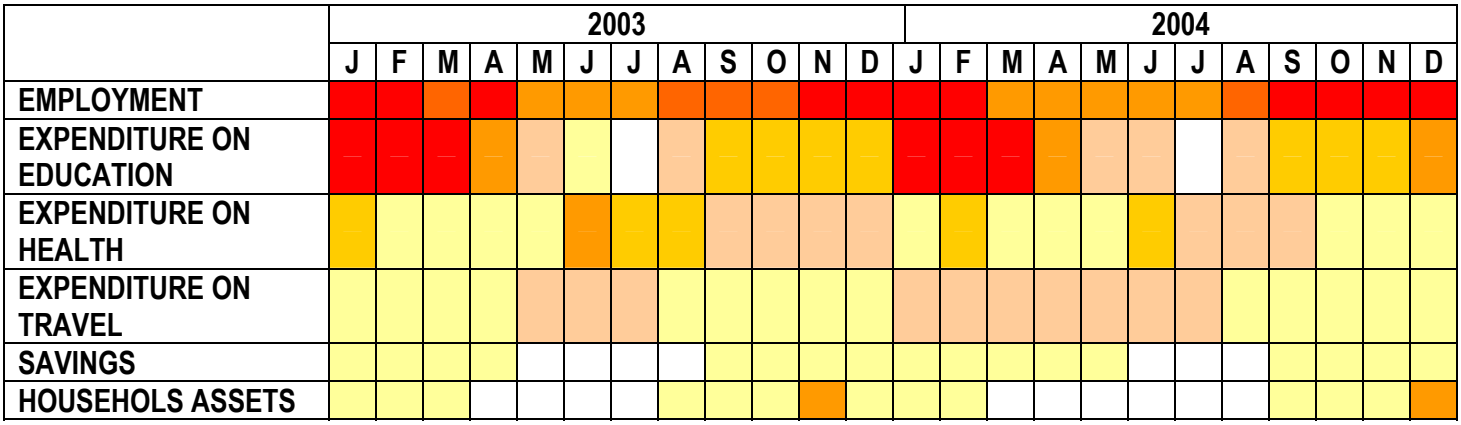

Fig A.38 Borivilli

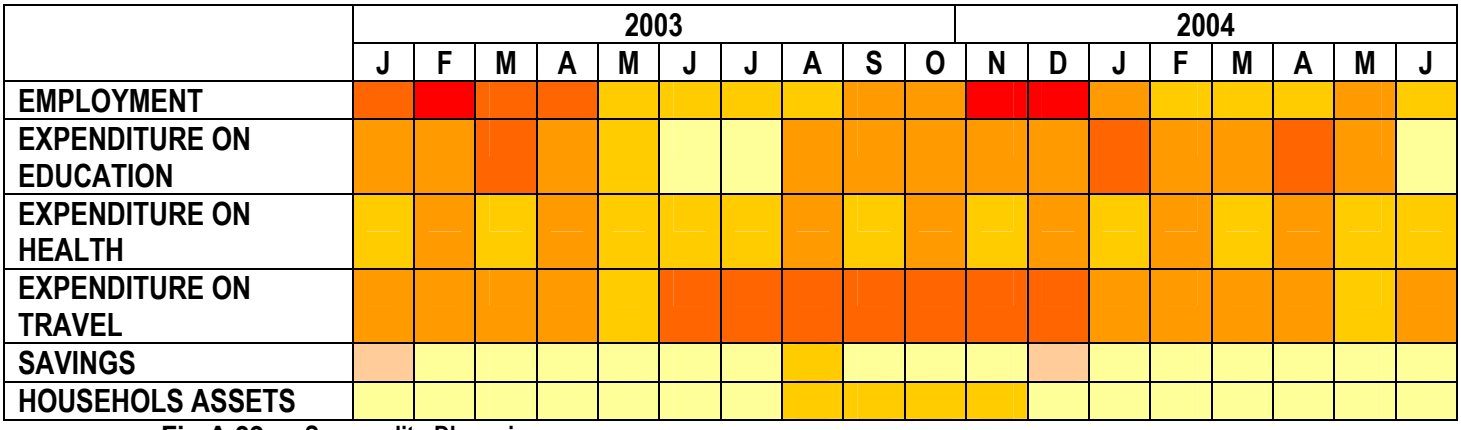

Fig A.39 Seasonality:Dharavi

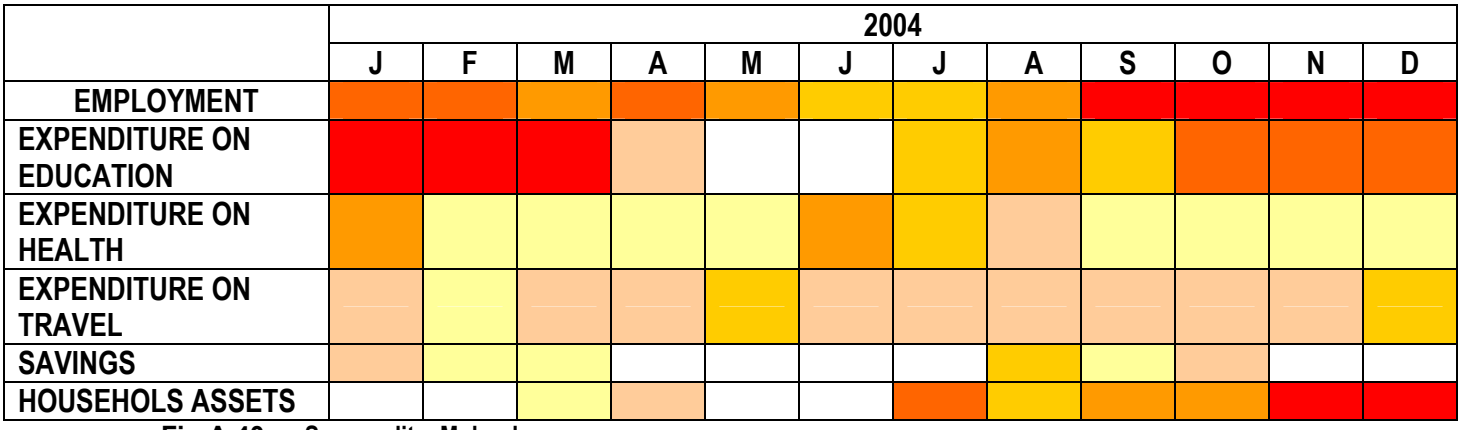

Fig A.40 Seasonality: Mulund

ANNEXURE XII: Questionnaire

Name of the person Interviewed
Time
Date

1. Identification data

Form No. ……
House No. ……
Colony Name ……
Years at present location ……
Year of shifting ……
Relocated ……
If Relocated, from where ……
Years at previous location ……
No. of Families at previous location
No. of Families at the current location

2. Household Characteristics

Member	Age/Sex	Education	Occupation

Is there a change in number of

members after relocation ……
Reasons for change ……
Family Type Joint / Nuclear

State of Household (Observation)

Details of children (current location)

Children	Age/Gender	Class in which studying before/after relocation If drop out following relocation indicate D in the after column Reason for dropout after relocation		Employment details	
		Before	After	Before	After

Ask some school dropouts about their experience after leaving schools

- **How did they go to school before relocation and how do they go to school now**
- **Daily cost of sending children to school – Before and After relocation**
- **Ask children about their occupation**

	Before	**After**
No. of school days in a month, missed due to illness		
No. of school days missed due to relocation		
Examination missed due to relocation		

3. Housing Characteristics

Tenure Status — Owned / Rented
If owned are patta papers available — Yes/No
Rental (If Rented) — Rs……
Area of hutment — …….
Area prior to relocation — …….
Additional area given on rent — Y/N
Rental Value — …….

Type of construction — Kutcha / Semi Pucca / Pucca

Type of construction prior to relocation — …….
No of stories — …….
No of stories before relocation — …….
Mode of payment for the site provided by the government — Saving / Loan / Mortgage
Loan Amount — …….
Loan Tenure — …….
Interest Rate — …….
Loan taken from — Govt Dept/NGO/Bank/Pvt.Lender/ Relatives/Friends/employer Others
Loan repayment instalment and interest

Comment on relocation process — Why/Involuntary/time/Difficult/any other

4. Income Profile

	Before Relocation	After Relocation
No. of earning Males		
No. of earning Females		
No. of earning Children		

Details of earning members (*current or after relocation households*)

Earning Member (including children)	Name	Name	Name	Name
Gender/Age				
Relation to head of the family				
Govt Job (specify)				
Private Job(specify)				

Self employed				
Daily wage worker				
Domestic worker				
Factory worker				
Any other (specify)				
Current income				
If daily wager, what is the daily wage				
Working days in the last fifteen days				
Reason for less working days				
Distance to current place of work				
Cost of travel				
Mode of travel				
Loss in working days due to missing the bus				
Loss of working days due to illness				
Time for travel to work(including waiting time for bus, walking)				
access to number of bus services				
Nature of Job Seasonal / partial / fulltime				

Details of earning members (*before relocation*)

Job before relocation				
Did you Change job				
after relocation				
Reason for change in job				
Income before relocation				
Distance to current place of work				
Cost of travel				
Mode of travel				
Time for travel to work				
If daily wager, what is the daily wage				
Working days in the last fifteen days				
Reason for less working days				
Loss of working days due to illness				

Problems after relocation

Change of job after relocation	Y/N	Y/N	Y/N	Y/N
If yes , why?				
No of days without job/couldn't go to work loss of income due to missing work days				
Reason *Bad health / no job / shifting /rebuilding*				
Difficulty in finding	Y/N	Y/N	Y/N	Y/N

new job what (specify)				
Change in nature of job				
New Skills required	Y/N	Y/N	Y/N	Y/N
New skills learnt	Y/N	Y/N	Y/N	Y/N
Nature of new skills				
Cost involved in acquiring new skills				

5. Expenditure Pattern

Expenditure details per month

Expenditure	Before relocation	After Relocation	Reasons
Food			
Rent / Housing			
Clothing			
Education			
Travel			
Health			
Electricity			
Water			
Entertainment			
Festivals and Rituals			
Other Expenses			
Savings			
Saving Mode			

Any Loan Instalments			

If expenditure is more than monthly income than how is the household managing to meet their needs

Explain

6. Shifting details

Details of Loans Taken

Purpose	Reason	Amount	Source	Interest	Instalments
Land					
Housing					
Marriage					
Shifting					
Occupation					
Health					
Household assets/other					

Government assistance during relocation yes/no
Means of building house Privet builder/relative/neighbours help/self
Do you have any other house yes/no

No of days spent for the following:

	No of days	Reason
Making new ration card		

House Ownership Papers		
Bank Account Transfers		
School admissions		

Costs incurred in Shifting:

Payment for land		
House construction		
Buying bricks, other construction material		
School admission		
Making other documents		
Shifting (hiring auto, transporting h/h assets etc)		
Other costs incurred during shifting (making voter card, loss of certificates, health problems etc)		

Fridge			
Cooler			
Cycle			
Two wheeler			
Mobile phone			
Telephone			
Auto Rikshaw			
Cycle Rickshaw			
Computer			
Rheri / Koisk			
Shop			
Tools of work such as carpentry, sewing machine, motor mechanic etc.			
Any other			

7. Asset Profile

Assets	Before relocation	After relocation	Reason for change / Mention if they are used for earning
Livestock assets			
Television			

7. Infrastructure profile

Social Infrastructure- specify if this facility is present and mention the distance, and time taken to use these services

Infrastructure	Current distance, time taken	Before Relocation (distance, time taken)
Primary Health facility		
Education Facilty – Anganwari		
Education Facilty – Primary School		
Community Centre		
Shopping Facility		
Religious building		
Parks and Open Spaces		

Physical infrastructure

Infrastructure	Current	Before Relocation
Water Supply	HH/community supply, tanker/any other source	HH/community supply, tanker/any other source
Toilets	HH/community	HH/community
Electricity	HH /community	HH /community
Public Phone		
Roads & Lanes		
Drainage	Covered/open	
Bus stop		
Solid Waste Disposal		

8. Social Groups

	Current	Before Relocation
Member of community based groups		
Member of thrift and credit society		
Involvement with Ngo		
Involvement with political groups		
Any other associations		

Facility		In present location				
	Yes/No	Use in the past one month	Distance	Time of travel	Cost of travel	Cost of using facility
Health						
Education						
Community Centre						
Market						
Religious plpace						
Parks and open spaces						
Water						
Electricity						
Toilet facility						
Roads						
Garbage collection						

Facility		Before Relocation				
	Yes/No	Use in the past one month	Distance	Time of travel	Cost of travel	Cost of using facility
Health						
Education						
Community Centre						
Market						
Religious pace						
Parks and open spaces						
Water						
Electricity						
Toilet facility						
Roads						
Garbage collection						