LINKAGES BETWEEN POVERTY AND ENVIRONMENT – A CASE STUDY OF SQUATTER DEVELOPMENT IN ISLAMABAD

Researcher:
Syed Atif Bokhari
Registration No.3-FBAS/MSES/F07

Supervisors:
Dr.Rashid Saeed
Department of Environmental Sciences

Department of Environmental Sciences
Faculty of Basic & Applied Sciences
INTERNATIONAL ISLAMIC UNIVERSITY
ISLAMABAD.

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

Dedication:

I would like to dedicate it to the name of my daughter Maryam Atif Bokhari who suffered the most during my studies.

(Acceptance by the Viva Voce Committee)

LINKAGES BETWEEN POVERTY AND ENVIRONMENT – A CASE STUDY OF SQUATTER DEVELOPMENT IN ISLAMABAD

Syed Atif Bokhari
Registration No.3-FBAS/MSES/F07

Accepted by the Department of Environmental Sciences, International Islamic University, Islamabad, in partial fulfillment of the requirements for the degree of MS in Environmental Sciences.

Viva Voce Committee

Dean 14/10/09

Chairman

External Examiner

Supervisor

Member

Date:

Abstract

Islamabad is one of few planned cities in the country. It has distinct land use pattern i.e. administrative and related functions, residential, commercial, industrial, recreational, etc. which stand in sharp contrast to each other.

During the course of its development, a large number of economic migrants from different parts of the country arrived here. The inadequate resource availability forced these disadvantaged poor to look for available state land within the municipal limits for fulfilling their shelter requirements. As a result, the undesired phenomenon of slum and squatter settlements started to mushroom in the planned urban environment of Islamabad.

Islamabad was declared as the Capital of Pakistan in 1960. The population of the city had sprawl to an extent of 529,180 in 1998. The inadequate policy response to address the housing demands is resulting in the form of squatter settlements in capital city. At present, CDA has adopted a three prong policy in order to address the issue of squatter settlements in Islamabad.

The current study is designed to decipher the intricate linkages between poverty and environment based upon the findings of a case study of G-8 squatter settlement.

The theoretical framework developed for studying poverty environment relationship is based upon 3xM methodological approach. The approach comprises of two sections including analytical section and interventionist section. The analytical section helps us to work out the ground realities while interventionist approach leads to the formulation of policy in the same reference.

The monthly per capita income of 85% respondents was found to be less than Rs.3000/- whereas that of only 1% was found to be Rs.4500/-.

Solid waste disposal management and functional sewerage system is almost non-existent in the area. At present, only 11% respondents are availing pipe water facility at their premises which is a major factor leading to environmental degradation of the locality. Eighty nine percent respondents suffer from the unavailability of clean drinking water which exhibits the degree of their vulnerability to water borne and water washed diseases.

The findings reveal that the prominent majority of 66%, 74% and 88% among illegal, allotted and registered occupants respectively, are living here due to economic considerations. The financial compulsions of these dwellers are directly affecting their tendency towards fuel use, aptitude for proper medical treatment and other priorities of life.

The high occupancy ratio in this area is a direct outcome of poor economic condition or large family size. The resultant repercussions are manifesting in the form of poor living conditions, increased complexity in social relationship of the family and delinquent behavioral response.

The response of 84% respondents that each person in the community is equally responsible for mismanagement of solid waste produced, shows the degree of awareness.

The ownership status of these dwellings as recognized by CDA is another important factor affecting the dwellers' relationship to environment in G-8. It has been observed that recognized property rights not only reduce the economic pressure on the squatter dwellers but also enhance their environment friendly behaviour.

ACKNOWLEDGEMENT

I am grateful to God Almighty who has made my dream come true. I am highly indebted to all those who helped me at various stages in the completion of this thesis, especially, my mother who helped me through all possible spiritual and moral support during my MS study.

My particular thanks are to my Supervisor Dr.Rashid Saeed (Department of Environmental Sciences) for his kind assistance and precious advice with which he forwarded his views. It is my duty to say that it is due to his cooperation and guidance that the work has been completed in such a short time.

My gratitude is also to the staff of Environmental Sciences Department, particularly Dr.Muhammad Irfan Khan, Chairman of the Department, who at various occasions during my studies at the Department helped and explained to me the problems.

I wish to thank from the core of my heart the following benefactors who have with loving care and affection guided me during the entire course of my research work:

- Dr.Arif Mehmood, Assistant Professor, National Institute of Pakistan Studies, Quaid-e-Azam University, Islamabad dedicatedly supported me during the entire course work with his insight and experience.
- Mr.Muhammad Bashir Janjua, Deputy Census Commissioner, Population Census Organization, Islamabad.
- My friend, Muhammad Nadeem Baig, Geographical Assistant, Population Census Organization, Islamabad.

At last but not the least, my wife, Ambrina Kanwal, deserves all the credit owing to her unflinching support and encouragement despite the hectic schedule of my studies.

June 3rd, 2009. SYED ATIF BOKHARI

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FORWARDING SHEET

The thesis entitled Linkages between Poverty and Environment – A Case Study of Squatter Development in Islamabad submitted by Syed Atif Bokhari in partial fulfillment of degree of MS in Environmental Sciences has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process of as per IIU rules & regulations.

Date: June 3rd, 2009.

Signature: R09--

Name: Dr.Rashid Saeed,
Assistant Professor,
Department of Environmental Sciences,

CHAPTER 1

INTRODUCTION

Human endeavor to harness "the natural endowments" for his survival and betterment is as old as the emergence of mankind itself, on the face of earth. During the entire course of his voyage to mould the environment for his "Cherished designs", one thing remains certain i.e. uncertainty about the repercussions of human intervention with the "Mother Nature".

At the threshold of 21st century the proportion and magnitude of human-driven stresses on the natural environment has increased manifolds as a result of burgeoning population and technological advancement. The interferences and stresses on the natural environment manifest themselves in the form of uncertainties and hazards. An appropriate understanding of human requirements, keeping in view the ground realities can be helpful to avert or mitigate the adverse impacts of human intervention with the nature.

It is collective responsibility of mankind to preserve the earth – as a home of man for the coming generations. First of all, it requires a complete understanding of the factors involved in the process of degradation for the natural environment ranging in extent from local to global extent.

As regard with the resource use and their depletion following facts are noted:

- Unbridled increase in human population exerts pressure on the natural resources.
- Industrialization/technological advancement is responsible for rapid resource exploitation and subsequent depletion.
- Rapid urbanization stimulates the enhanced resource need.
- Unplanned resource utilization.

The phenomenon of "economic poverty" plays a vital role for determining the extent and magnitude of these adverse consequences of the above mentioned factors. There is a dichotomy of views about the impacts of poverty on environmental degradation. There is a great majority of experts and scholars, who believe that poverty does not play major role in environmental deterioration. Contrary to this view, there are many analysts who sell the idea of heavy correlation between poverty and environment. But, in the present times, there is another emerging consensus about the relationship between the environment and poverty. It states that with change of geographical scale – the nature and extent of relationship between poverty and environment changes diametrically, i.e.

- At the global level the technologically advanced and rich nations are contributing more towards global environmental degradation than the poor nations of the world.
- On the other hand, at the local scale, the equation changes diametrically and poverty seems to be mainly responsible for the degradation of local eco systems as compared to the rich and thus faces the burnt of their interaction with nature.

Unfortunately, there is a consensus regarding the negative fall outs of environmental degradation on the poor section of the society. The economic and physical vulnerabilities, as a result of financial handicaps, make the poor an easy prey to environmental mismanagements and disorder. The United Nations, Human Development Report, 1985 attests the statement. According to this report "Environmental damage almost always hits those living in poverty the hardest"[1].

To decipher the intricate relationship between poverty and environment at micro level, the present study, **the linkages between poverty and environment a case study of squatter development in Islamabad** is being conducted to understand the process of squatter development and the resultant imprints on the surroundings. In this way we will be in a position to devise a practicable strategy to address the problem of environmental degradation in a comprehensive way and style otherwise in the world of Lao Tsu "When man lack a sense of awe there will be a disaster"[2].

Permanent settlements are considered a byproduct of Agricultural Revolution, surplus of food and better socio economic conditions contributed towards their growth in terms of size and number. In the word of Arther E.Smails "Urban centers are as old as human civilization".[3] With the passage of time, these permanent settlements are manifesting in the form of great urban centers.

According to a recently released report titled "State of the world population 2007: Unleashing the potential of urban growth" by the United Nations Population Fund, by the end of 2008, more than one half of the world population of 6.75 billions will live in the urban areas. In the opinion of Todaro and Smith "the urban centers of the developing world will absorb over 80% of future increases in world

---

[1] Michael P. Todaro and Stephen C. Smith, *Economic Development, Eighth edition*, 463.
[2] Peter Haggett, *Geography A Modern Synthesis.* (Harper & Row Publishers, New York, 1979).
[3] Arther E. Smails, *The Geography of Town.*

population. Much of the intensification of urban congestion, however, will result from heavy rural-urban migration."[4] So, it will be "the first time in the human history that towns and cities will have more residents than the countryside"[5]. The report, State of the world population 2007: Unleashing the potential of urban growth by the United Nations Population Fund, also envisaged that this time the phenomenon of urbanization will visit the developing countries of the world as "it was experienced by the European and North American Countries from 1750 to 1950"[6]. As a result of the phenomenon, new urban settlements will spring up in the developing regions of the world. The mass movements of the people from rural to urban areas will register their negative impacts in the form of unwarranted growth and unplanned sprawl in the existing urban centers in the form of squatter settlements.

In case of Islamabad, the bulk of these migrants are classified as "economic migrants". These are the people who arrive in Islamabad mostly for better economic opportunities. Unfortunately, due to the shortage of affordable housing facilities, especially for low income groups, start to dash their hopes at the onset and forces them to take refuge for survival in the squatter settlements/slum areas. In the words of Tasneem Siddiqui, "When these poor jobless migrants arrive in the cities, they find neither jobs in the formal sector nor affordable housing; with no other alternative, they become part of the sprawling, ever-expanding squatters slums".[7]

In most low middle income countries, like Pakistan, the expansion in urban population is taking place without required expansion in the services and facilities that are essential to an adequate and healthy environment. Urban expansion

---

[4] Michael P. Todaro and Stephen C. Smith, *Economic Development, Eighth edition*, 481.
[5] United Nations Population Fund, *State of World Population 2007 – Unleashing the Potential of Urban Growth*, (New York, 2007).
[6] Ibid
[7] Tasneem Siddiqui, *Shelter for the urban poor Cities - Engines of Growth*, (Pakistan Institute of Development Economics, Islamabad, 2007), 106.

without effective urban management means that a substantial proportion of population will face high level of risk from natural and human induced environmental hazards. Such an adverse situation cues the poverty-ridden section of the society to take refuge in the slums and squatters settlements for survival. This cause and effect relationship between poverty and squatter settlement exacerbates the stress on environment, which generates multiple environmental problems for the entire population.

It is a time tested reality that these urban slums and squatter settlements are considered as a safe heaven for the poor of the urban areas and attracts the newly arrived migrants from rural areas or small towns with little or no financial resources, due to their low or no rental value and proximity to work place. These slums and squatter settlements are considered a great burden on existing physical and social environment of the urban areas, despite the constructive role of its dwellers on the socio economic life of the urban centers as a menial worker. There is a constant dichotomy of views among the experts about the existence of these slum areas and squatter settlements in or around urban settlements and the resultant impacts on the environment.

Current study is planned to understand the factors involved in the birth and growth of these slums and squatter settlements in or around the urban centers, the impacts of poverty on the neighborhood and its residents and their combined impacts on the physical and social environment. Such an understanding is essential to minimize the resultant consequences of the squatter settlements on the environment. In the past it was a problem of industrialized nations but now it is rapidly registering its imprints on the social lives of developing nations as well "over

90 per cent of slum dwellers today are in the developing world, South Asia has the largest share."[8]

1.1 OBJECTIVES OF THE STUDY

Present study is carried out with the following objectives:

- To study the distribution, location, and size of the squatter settlements located in Islamabad.
- To analyze when, why and how these squatter settlements developed in and around the capital of Pakistan despite administrative restrictions for their development.
- To identify the factors (Economic, Social, Political) and their role in the growth of these slums and squatter settlements.
- To implement the theoretical knowledge obtained during the course work in a natural setting.
- To identify a 'replicable analytical approach' that would decipher poverty-environment dynamics at the local level and establish linkages to higher-level policies and institutions at sub-national (meso) levels.
- To analyze the complex dynamics between the squatter dwellers and the environment in a specific locality.
- To interpret relations between the local (micro) poverty-environment dynamics and policies and institutions at meso and macro levels in each country.

[8] United Nations Population Fund, *State of World Population 2007 – Unleashing the Potential of Urban Growth,* (New York, 2007).

1.2 Limitations/Constraints of the Proposed Study

The following limitations/constraints were experienced during the various stages from research design to thesis writing:-

- Poverty-environment dynamics at the local, meso and macro levels vary considerably with the change of space and time so it requires the tailoring of research approaches to meet the unique conditions.
- The relative influence of economic policies and/or institutional arrangements in each locality varies as well and therefore reliance on quantitative analysis or qualitative analysis alone easily leads to important distortions and omissions in research findings.
- Keeping in view the amorphous nature of man, the researcher can not rely on a single prescribed methodology so he has to change his technique according to the changing scenario.
- The shortage of time and resources were felt during the course of research.

1.3 Review of Literature

Permanent settlements are a byproduct of agriculture. The nodality of permanent settlements, as a central place for the provision of goods and services for surrounding areas, help them to grow in number and size.

In this regard, rapid industrialization in eighteenth century added a new dimension in the form of large scale influx of rural urban migration towards urban

centres. Failure of existing infrastructure to absorb these newly arrived migrants in urban centres triggered the growth of squatter settlements in the industrialized countries. The precarious environment and living conditions of these squatter settlements and slum areas stimulated the researcher to find out means and ways to reverse the deteriorated environmental and living conditions in these nations. That is why most of the literature on various issues related to squatter and slum settlements is available in the literature of industrialized nations.

In Pakistan, environmental perspective has recently been entered into the official focus for action. Therefore, limited literature is available on environmental poverty relationship in Pakistan. The emerging concerns about the environment have stimulated this study to find out the causes of environment degradation from a different perspective while, keeping in view the demands and requirements of Pakistan.

The stresses on physical and social environment as a consequence of these squatter settlements have obtained a new dimension in the last century. It invites the attention of researchers from diversified disciplines to decipher their impacts on urban environment and social life of its dwellers. In this connection, an urban geographer, R.M.Northam of Oregon State University (USA) discussed in detail the social behaviour and residential structure of squatter settlements/slum areas in the United States. His work gives a useful insight into the phenomenon of linkages between poverty and environment. His postulations for the reversal and mitigation of the adverse impacts of these squatter settlements on the urban/social life provide a solid base for further investigation[9].

---

[9] Ray M.Northam, *Urban Geography, 2nd Edition,* (John Wiley & Sons, New York, 1979).

Maarten L. Kool, Dik Verboom and Jan J. van der Linden have made a comprehensive study of the dynamics of squatter settlements in Pakistan[10]. The research work provides a sound theoretical knowledge on squatter settlements of Karachi. The administrative structure, the causes of birth and sprawl, the resource availability at the disposal of civic bodies, the size of urban centre and volume of population are quite different in case of Islamabad as compared to Karachi. Although, both of these urban centres are a part of same geographical region but the above mentioned dissimilarities with respect to these two urban centres, demands new insight for understanding and improvement of living conditions in the squatter settlements of Islamabad.

The available published literature about the squatter settlements of Islamabad is very limited due to the young age of the city. In this regard, the first reported effort was carried out by a Research Syndicate in the form of a report about the physical and environmental conditions of slums and squatter settlements of Islamabad in February, 1987. The findings of the study by Research Syndicate that was headed by Mr.M. I. Lashkar, a veteran journalist, gives useful insight about the living conditions of slum and squatter dwellers. His report entitled 'Slum – Dwellers of Islamabad In-depth Study on Urban Housing' provides useful material for understanding the phenomenon of squatter settlements in Islamabad in a historic context[11]. The research report was mostly based upon anecdotal knowledge rather than solid statistical yardsticks. Findings of this study, however, are useful precursor for understanding the issue of squatter settlements in Islamabad. With the lapse of more than two decades, a lot of socio-economic and demographic realities have changed in Islamabad. The resultant

---

[10] Maarten L. Kool, Dik Verboom and Jan J. van der Linden, *Squatter Settlements in Pakistan,* (Vanguard Books Pvt Ltd., Lahore, 1988).

[11] M. I. Lashkar, *Slum – Dwellers of Islamabad In-depth Study on Urban Housing,* (Research Syndicate, Rawalpindi, 1987).

changed scenario demands a fresh insight based upon sound methodological framework and current statistics for the mitigation and reversal of environmental degradation as a consequence of these squatter settlements.

'Cities – Engines of Growth' by Pakistan Institute of Development Economics edited by Nadeem-ul-Haque and Durr-e-Nayab is a collection of selected research papers presented in a conference held in Karachi in 2006. The theme of this book is to understand the phenomenon of urbanization and its associated problems in Pakistan. The third part of this book, Shelter, has four articles which contain useful information and insights about the plight of squatter dwellers and the repercussions of squatter settlements for surrounding environment in large urban centres of Pakistan. In this connection, especially the third article, 'Housing Demands in Islamabad Capital Territory' by Ayaz Ahmed gives substantial information about the existing housing stock located in the squatter settlements[12].

The issue of economic poverty and environment in the backdrop of slum areas in Pakistan also got the attention of Akbar Zaidi in his 'Issues in Pakistan's Economy'[13]. The findings and interpretation of this book regarding poverty environment nexus are general in nature and do not specifically explain the existing situation of the issue in the context of Islamabad.

'Poverty and the Environment – Understanding Linkages at the Household Level' published by the World Bank is another useful source for the assessment of poverty environment linkages at household level. It helps in deciphering the intricate relationship between poverty and environment at household level in case of squatter settlements in Pakistani perspective.

---

[12] Nadeem Ul Haque and Durr-E-Nayab, *Cities - Engines of Growth,* (Pakistan Institute of Development Economics, Islamabad, 2007).

[13] S. Akbar Zaidi, *Issues in Pakistan Economy 2nd Edition,* (Oxford University Press, Karachi, 2005).

David Reed in his work 'Escaping Poverty's Grasp' provides an in-depth knowledge on poverty environment nexus. He based on the research findings of the case studies carried out in different parts of the world. The research work of Reed provides a sound theoretical and methodological framework for understanding the complexities associated with the poverty environment relationship from different perspectives.

Keeping in view the socio-economic predicaments of the country, the simmering issue of poverty and environment remained neglected by the researchers in the past. As a result, very limited literature about poverty environment linkages from Pakistan's perspective is available. In this regard, the literature on environment of squatter settlements of Islamabad is even more scanty. The issue of squatter settlements demands a systematic research to find out the factors responsible for the birth and growth of squatter settlements. It is also important to understand the impacts of these squatter settlements on the environment of Islamabad and the future of settlements. Thus, the present study is an attempt to fill the gap in literature on the environment of these settlements and poverty environment interdependency in such areas.

The current study not only explores the causes of the growth of squatter settlements in Islamabad and the conditions of housing stocks of these squatter settlements but also tries to find out the linkages between poverty and environment based upon the findings of a case study of G-8 squatter settlement. Besides this, it also focuses on the resultant repercussions of these squatter settlements on surrounding areas which is very vital for the formulation of a comprehensive strategy to address the existing problems associated with these settlements.

1.4. Methodology

The methodology of the proposed study is based upon "3 x M" approach[14] for comprehending the dynamics of linkages between poverty and environment at micro (local), Meso (Sub-national i.e. CDA) and Macro (National) level.

This methodological approach contains two basic parts i.e. Analytical Section and Interventionist Section. The Analytical Section is destined to decipher the poverty environment dynamics at all levels. The second part is responsible for the identification of factors that can transform the theoretical prescriptions into solid outcomes.

Research is based on case study of one of squatter settlements in Islamabad. For this purpose, squatter settlement located in G-8 sector was selected and an in depth study of that squatter settlement was made. The case study was designed and carried out to assess the environmental conditions in the backdrop of poverty environment phenomenon. The problems associated with these areas and their future prospects will also be analyzed in the proposed study. It will also provide an opportunity to understand the problems like;

- Housing condition
- Sanitation (Solid/liquid waste disposal)
- Provision of safe drinking water
- Education
- Health
- Quality of life.

And their environmental impacts on the residents of squatter settlements and upon the surrounding areas.

---

[14] David Reed, *Escaping Poverty's Grasp – the Environmental Foundations of Poverty Reduction*, (Earthscan Publishers, London, 2006), 20.

1. Data Collection
2. Data processing and summarization
3. Analysis
4. Findings

1.4.1. Data Collection

Data collection enjoys the paramount importance in scientific research. Keeping in view the importance of data collection, it is referred as "The first step in any investigation is collection of data".[15]

For the present study, two types of data were collected from the following sources:-

a) **Primary source.** To understand the existing scenario in its true perspective requires the study of the target population which makes it mandatory for the researcher to consult the target population. To decipher the intricate relationship between poverty and environment at micro level, the primary data was collected from the inhabitants of G-8 squatter settlement. For this purpose a structured questionnaire was designed to collect data directly from the study area. To achieve the empirical results, **disproportionate stratified random sampling technique** based upon ownership status was applied to maintain the objectivity of the research.

A disproportionate stratified sample is used when the researcher wishes to compare a subgroup or strata to other subgroups of the population as a whole. The researcher first identifies the strata and then over-samples the small strata of interest by selecting higher percentages of them than of the rest of population.[16]

---

[15] Ghulam Hussain Kiani and Muhammad Saleem Akhtar. *Basic Statistics*, 11.
[16] Chadwick A. Bruce, Howard M. Bahr and Stan L. Albrecht, *Social Science Research Methods*, (National Book Foundation, Islamabad), 61.

For this purpose, the data was collected from 140 respondents among the entire population of the study area based upon their recognized ownership status by the CDA according to the following number.

Owners occupants	: 35 (Those who have been allotted the plots by CDA)
Recognized occupants	: 35 (Those who have not been allotted plots by CDA but they will get one soon)
Illegal occupants	: 70

b) **Secondary source.** Secondary data is vital for an in-depth and comprehensive research analysis. For the present study, secondary data, from archival and non-archival sources, was consulted by the researcher. Relevant information for the present study was collected from the CDA, Ministry of Interior, Ministry of Education, Ministry of Population Welfare, Ministry of Health, Ministry of Finance, Survey Department and various other Government and Semi-Government organizations. Besides this, unpublished data from CDA, Hospitals, Education Department and reports from various Government & Non Governmental Organizations (National & International) were extensively used to reinforce the arguments.

c) **Data processing and summarization.** The collected data from the study area for the present study was processed and summarized with the help of MS Access (Office 2007) computer based software.

d) **Data analysis.** The processed data was analyzed with the guidance of research supervisor. At this stage the cause and effect relationship between poverty and environment was identified. The factors which are responsible for the present environmental settings were identified and their theoretical explanations were

explained in the present scenario. At this stage, a computer based software MS Excel was utilized extensively.

e) **Data presentation.** The processed and analyzed data is being presented in theoretical form with explanation. For this purpose models and quantitative techniques, Maps and diagrams were constructed to portray information in graphical form. Finally, description and explanation has been given.

CHAPTER 2

SQUATTER SETTLEMENTS IN ISLAMABAD

2.1 ISLAMABAD – ITS BIRTH AND GROWTH

As a result of heroic endeavour by the people of Sub-continent, the British India was partitioned to accommodate the aspirations of Indian Muslims. The Nascent State – Pakistan emerged on the map of world on the 14th of August, 1947. As a make shift arrangement, Karachi, the capital of Sindh Province was a natural and obvious choice to serve as the capital for the newly independent country. Even in the embryonic stages of independence, it was felt "that a new and permanent capital city had to be built to reflect the cultures, traditions, hopes, aspirations and dreams of all the diverse ethnic, linguistic and regional groups that constituted the Pakistan nation"[1].

Due to financial constraints and socio-political compulsions of the national life, the desire remained unfulfilled for more than a decade. At last the Site Selection Commission was formed "in February, 1959 under the chairmanship of General A.M.Yahya Khan"[2]. The Search Commission for the selection of the new capital considered the following aspects for selecting a location for the establishment of the capital:-

1. Strategically suitable location.
2. Climatic and environmental settings of the site.

---

[1] Population Census Organization, *City Report – Islamabad,* (Population Census Organization, Islamabad, 2006).

[2] Population Census Organization, *City Report – Islamabad,* (Population Census Organization, Islamabad, 2006).

3. Historic background of the area.

The government accepted the recommendations of the Commission in June, 1959.[3] Subsequently, in September, 1959 Federal Capital Commission was formed to produce a master plan. The master plan was prepared in October, 1960 by a Turkish firm Messers Doxiades Associates of Athens[4]. It was designed on the principal of **Dynapolis.** Dyna means dynamic and polis means city i.e. "freedom to develop dynamically in the form of funnel"[5].

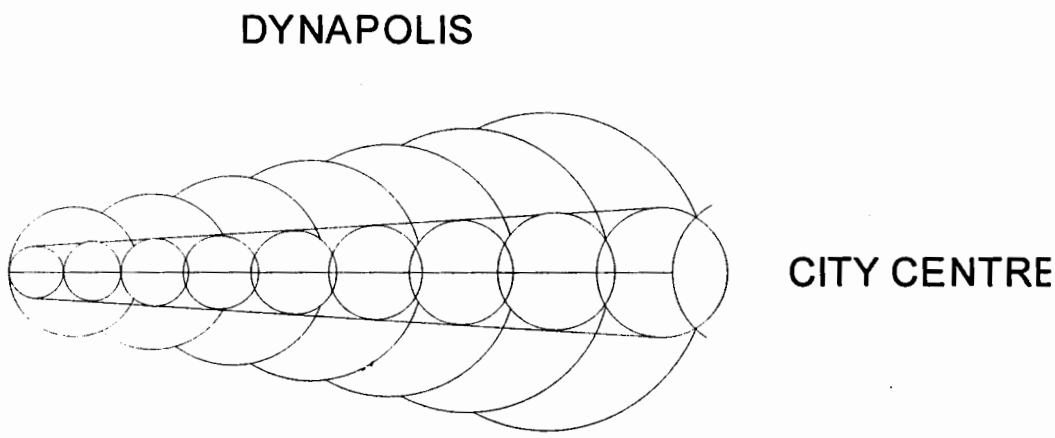


Figure 2.1. Diagram of Dynapolis

So it was assumed at that time that the city should be able to grow in scale and size coherently through all stages of development[6].

The Federal Cabinet accorded formal approval of the plan in a special session held on Shakarparian Hill. As a result of it Capital Development Authority (CDA) came into being on June 14th 1960 under the CDA ordinance 1960. The formal ground breaking ceremony took place in October, 1961.[7]

---

[3] Population Census Organization, *City Report – Islamabad,* (Population Census Organization, Islamabad, 2006).
[4] Rukhsana Khatoon, *Urban Growth and Structure of Islamabad,* (Rawalpindi, 1989).
[5] Ibid.
[6] Population Census Organization, *City Report – Islamabad,* (Population Census Organization, Islamabad, 2006).
[7] Ibid.

2.2. Name

After a lot of deliberation and considerations, the name Islamabad, the abode of Islam, was finalized for the capital and approved by the government.

2.3. Location

Islamabad city lies at 33° 38' northern latitudes and 73° 07' eastern longitudes. Margalla Hills lie on the northern side while Rawalpindi city is situated on the southern side. Bara Kahu and Bani Gala areas of Islamabad tehsil are on the east and Taxila is on the western side to encircle the Islamabad city.

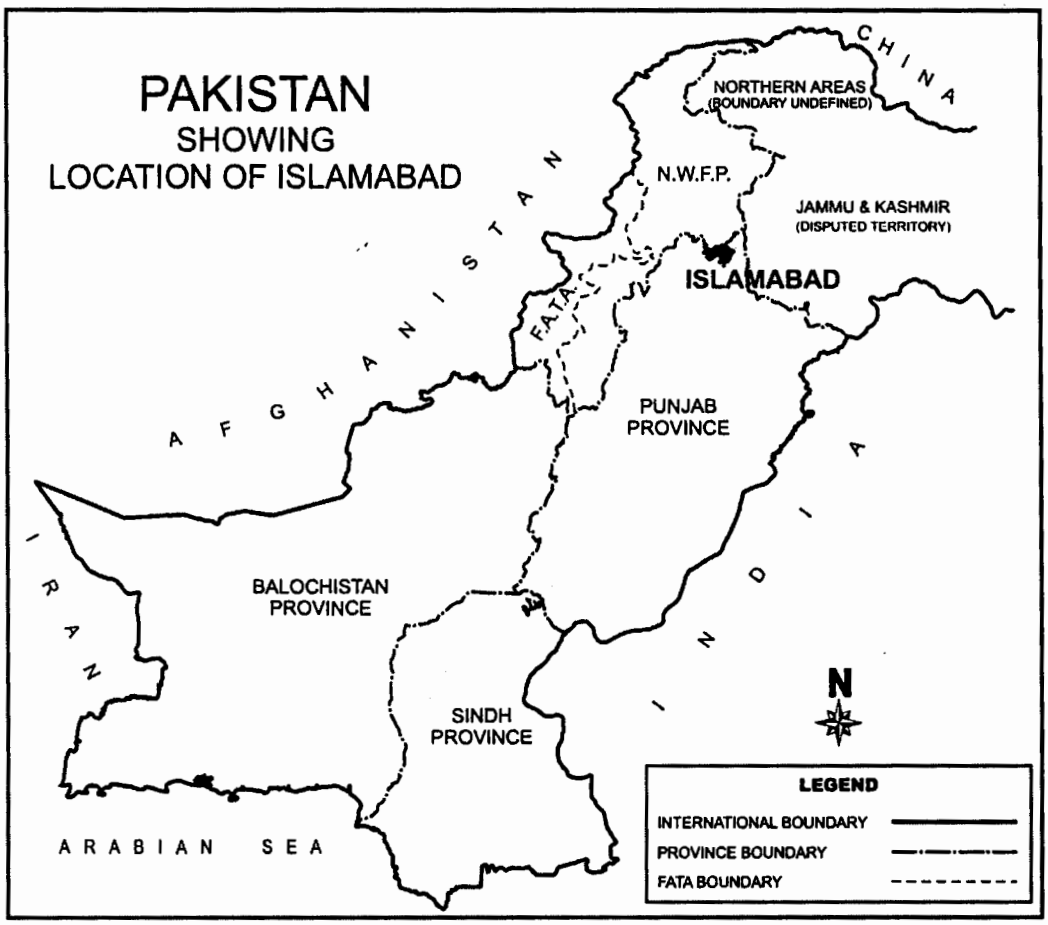


Figure 2.2. Map of Pakistan showing location of Islamabad

2.4. Topography

Topographically, Islamabad is the part of northern most edge of the Potohar plateau. The undulating land surface registered the impacts of dissection by gallies and ravines erosion. It is opined that "the adjoining Margalla range in the northwest of the city, is composed of hill series belonging to the Tertiary period and are about 60 million years old".[8]

2.5. Climate

Climatic variation is a prominent feature of the Federal Capital. January is the coldest month of the year when mean maximum temperature is 17.6°C and the mean minimum temperature is 2.6°C. While June is the hottest month of the year with a mean maximum temperature of 42°C and a mean minimum temperature of 24°C is experienced by the residents of the city.

The city witnesses two distinct spells of rainy season, the summer season from July to September and the winter season from December to April. The average yearly rainfall is 1143 mm, and average humidity is 55 percent.[9]

2.6 Area

The total area of Islamabad is 906 square kilometers which is mainly divided into two categories as under:-

Table 2.1. Municipal and Rural Area of Islamabad

Area	km^2
Municipal	440.3
Rural	465.7
Total:	906.0

Source: CDA, Islamabad.

[8] Nadeem Ul Haque and Durr-E-Nayab, *Cities - Engines of Growth,* (Pakistan Institute of Development Economics, Islamabad, 2007). 129.

[9] Ibid, 130.

2.7. Islamabad's Zones

The entire Islamabad Capital Territory (ICT) is divided into five zones from Zone 1 to Zone 5. These five zones have been explained by Ayaz Ahmed in his article Housing Demand in Islamabad Capital Territory[10] as under:-

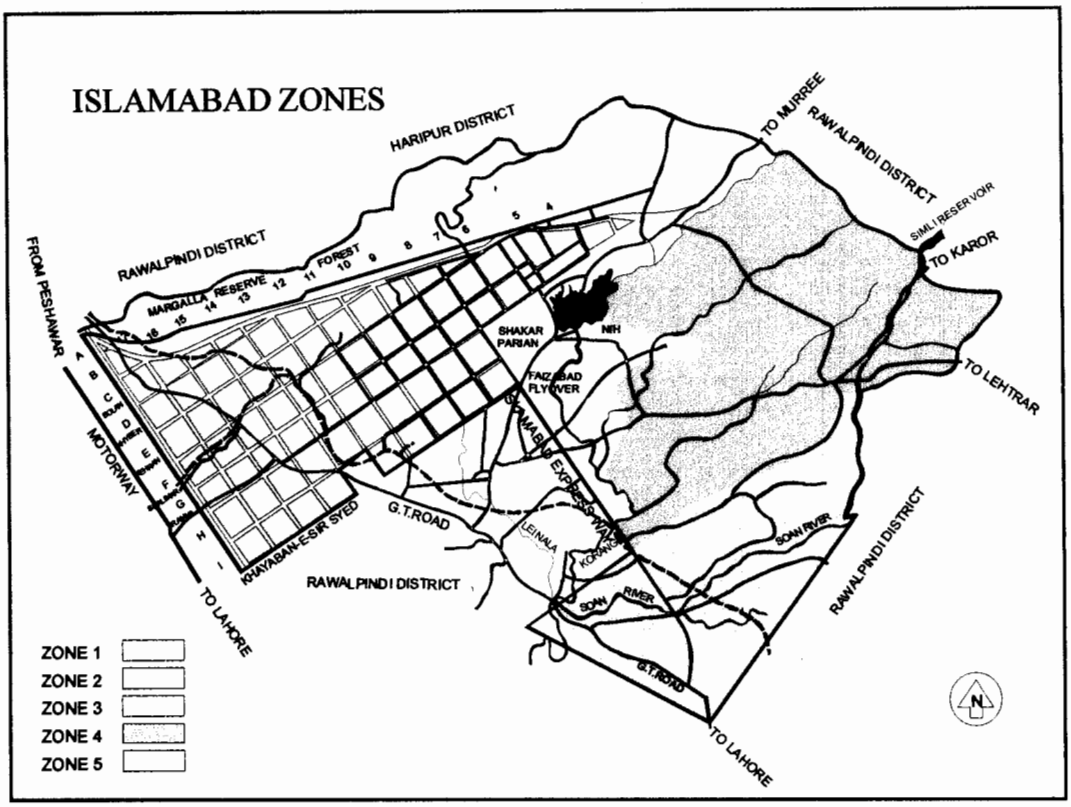


Figure 2.3. Map of Pakistan showing zones of Islamabad

Zone 1: This zone constitutes sectors up to the existing alignment of the Grand Trunk (GT) Road from the point of its intersection with Shahrah-e-Kashmir to the Nicholson Monument, inclusive of sectors H-14, H-15, H-16, H-17, I-14, I-15, I-16 & I-16.

Zone 2: This zone consists of an area bounded by the GT Road to the north, northeast, and north of Shahrah-e-Kashmir, and by the capital limits to the west, comprising

[10] Nadeem Ul Haque and Durr-E-Nayab, *Cities - Engines of Growth*, (Pakistan Institute of Development Economics, Islamabad, 2007), 130-131.

residential sectors G-15, G-16, G-17, F-15, F-16, F-17, E-15, E-16, E-17, D-16, D-17, C-17 and B-17.

Zone 3: The Margalla Hills National Park was notified under Section 21 of the Islamabad Wild Life Ordinance 1979. Other protected ranges, forest areas, and un-acquired land falling between the Mragallas and north of the Murree Road constitute this zone.

Zone 4: This zone consists of Islamabad Park and the rural periphery wedged between Murree Road toward the north and Lehtrar Road toward the south, and extending beyond Simly Road up to the ICT limits in the northeast. This zone excludes any part of the Margalla Hills National Park and Rawal Lake.

Zone 5: This zone comprises areas south of Islamabad Park and extending up to the outer limits of ICT toward the south, southwest, and south east.

2.8. Population

According to 1998 Census, the total population of Islamabad was 529,180. The city grew faster at an average annual growth rate of 12.29 percent from 1972 to 1981. This enormous growth rate substantially declined during the period from 1981 to 1998 to an average annual growth rate of 5.75. The following table is reflecting the change of demographic complexion of Islamabad since its inception.

Table 2.2. Population, Intercensal Increase and Growth Rate of Islamabad Since 1972

Census	Population	Absolute increase within censuses	Intercensal increase (percent)	Average Annual Growth Rate(%)
1972	76641	–	–	–
1981	204364	127723	166.65	12.29
1998	529180	324816	158.94	5.75

Source:- City Report Islamabad City, Population Census Organization, Islamabad.

Besides natural increase, substantial influx of migration for economic opportunities poured in, which is the second principal factor responsible for the population growth and urban sprawl of Islamabad. The enormous wave of migrants dramatically altered the socio-cultural outlook of the city life and truly converted this city into a cosmopolitan urban centre. The situation is quite visible from the following table:

Table 2.3. Migration to G-8 Squatter Settlement, Islamabad.

Description	Migration by Residence		
	All Areas	Rural	Urban
Total In-migration	397,371	85,091	312,640
Migration from Provinces	350,237	74,078	276,159
Migration from Azad Jammu & Kashmir/Northern Areas	26,122	9,910	16,212
Migration from other Countries	21,372	1,103	20,269
Migration not Reported	0	0	0

Source:- City Report Islamabad City, Population Census Organization, Islamabad.

2.9 THE ORIGIN AND GROWTH OF SQUATTER SETTLEMENTS IN ISLAMABAD

In case of Islamabad, as it is evident from table 2.3, the population explosion as a result of natural increase and migration, coupled with inadequate policy response to cater the demand of shelter for the economically marginalized section, encouraged the birth and growth of squatter settlements. In the opinion of Mustafa "A slum is a district in a city or town that is usually inhabited by the very poor or socially disadvantaged"[11]. According to a report of the United Nations Population Fund "The term 'slum' is used to refer to many types of housing, including those that could be upgraded. Terms such as 'slum', 'shantytown', 'informal settlement', 'squatter housing' and 'low-income

[11] Nadeem Ul Haque and Durr-E-Nayab, *Cities - Engines of Growth*, (Pakistan Institute of Development Economics, Islamabad, 2007), 145.

community' are often used interchangeably".[12] For a long time, the illegal ownership status of these slums and squatter settlements kept them beyond the focus of planning and development initiatives. As a result, with the passage of time, these squatters grew in number and size without any hide and hindrance by the concerned authorities due to numerous considerations.

During 1980s, the phenomenon of slums and settlements mushroomed very rapidly in Islamabad. During this period, in February, 1987 a survey "Slum – Dwellers of Islamabad" was conducted by Research Syndicate under the leadership of A.K.M.Shams-ul-Haque to assess the existing situation regarding squatter settlements in Islamabad. In this report, the researcher identified the presence of following major slum/squatter settlements and their estimated population in Islamabad:-

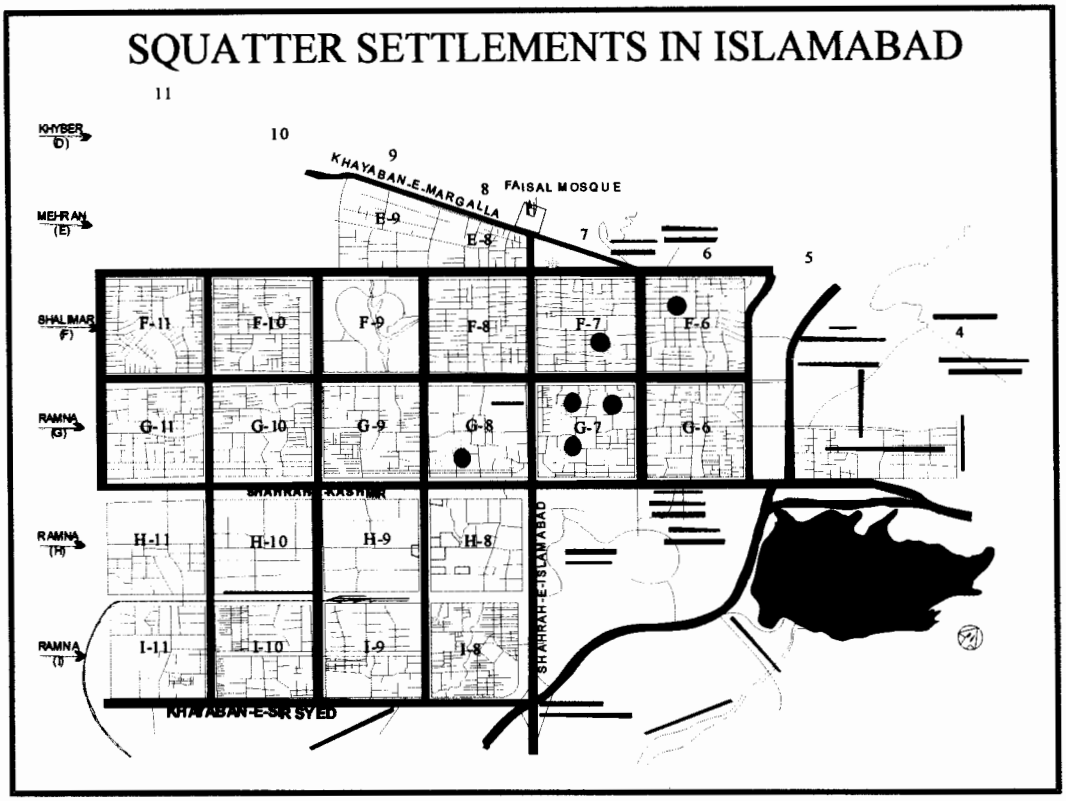
Table 2.4. Islamabad: Slum Areas and Slum Population in 1987

Sector where the slum area is situated	The name by which the slum area is known	Estimated number of families with the average of 8 members per family
F-6/3	Katchi Abadi	50
G-7/1	Tent Colony	100
G-7/2	Katchi Abadi	300
G-7/4	Katchi Abadi	50
F-7/4	France Colony	400
G-8/1	Charles Colony	100
G-8/1	Hans Colony	200
G-9/2	Labour Colony	700
E-7	Syed Pur	50

Source:- Dwellers of Islamabad In-depth Study on Urban Housing, Research Syndicate, Rawalpindi.

[12] United Nations Population Fund, *State of World Population 2007 – Unleashing the Potential of Urban Growth*, (New York, 2007).

While at present, the Capital Development Authority (CDA) acknowledges the existence of ten recognized squatter settlements in its territorial jurisdiction besides many small unrecognized squatter settlements.



● As reported by CDA
As reported by the survey conducted by Research Syndicate

Figure 2.4. Map of Islamabad showing squatter settlements

The presence and existence of these squatter settlements negates the claim of the officials that "Islamabad – the beautiful" is a planned city. At present, the existence of these settlements with following characteristics seems very strange.

- They are generally located in the heart of the city,
- Their growth is haphazard,
- They have no regular plans – streets are narrow and without planning. Besides this, there is no specific space for schools, mosques, playgrounds and for social activities.

- Individuals are involved in the process of land grabbing in Islamabad to meet their specific demand. These squatter settlements are cropping up as a result of individual efforts.

All these characteristics are responsible for making these areas unsuitable for healthy living. In the context of Islamabad, the unplanned squatter settlements seem more strange due to the following reasons:-

Firstly, as Islamabad is projected as a model of planned cities of the world, unplanned growth of slums does not fit here physically, legally and ethically. Secondly, slums appear just intruders in the claimed serenity of its environment which is the core of its planning. Thirdly, the slum areas appeared and are fast expanding in violation of the Master Plan under which the evolution of the city is progressing. Fourthly, as compared to rest of the country, the civic body in Islamabad enjoys all types of resources i.e. financial, institutional, legal and moral at its disposal for implementing the regulatory requirements of the capital. The presence of these squatter settlements and their expansion makes its performance questionable. Fifthly, the official demographic record of these squatter settlements is incomplete and flawed. The existence of such unplanned and unregulated settlements can create a potential security problem for a diplomatic city like Islamabad in the present precarious security environment.

2.10. The Factors Responsible for the Growth of Squatter Settlements in Islamabad

There are a number of factors which are responsible for the growth of squatter settlements in and around any planned urban structure across Pakistan. Primarily, it is the economic compulsions of the poor force them to illegally occupy the vacant areas within the city limits to meet their shelter requirements. The neglect from the authorities due to a number of reasons encourages these marginalized sections of the society to fulfill their

natural requirement for shelter in an illegal manner. The researchers in Pakistan after studying and analyzing the ground realities pointed out a number of stimulators which are playing a vital role in the birth and growth of squatter settlements in Pakistan.

Hasan, in his seven Reports on Housing, evaluates the causes for the failure of government housing policies, and explains why an alternative, informal market emerges and how it plays a significant role in providing housing to low-income groups.[13]

- An affluent middle class regularly invests in land and considers it a very safe investment. Most official schemes are purchased by this class which results in the form of *Property Boom*. In this way, the intended beneficiaries are sidelined.
- The development programmes of the government and the development authorities involve schemes that either are too small in scale or take many years to materialize which forces the poor to take refuge for shelter requirements in these illegal squatter settlements because they can not wait for so long.
- The socioeconomics of the poor is another important reason for the failure of government programmes. It is opined that government planning is often incompatible with, and does not take cognizance of, the economics and sociology of the poor which creates a 'cultural gap' between the government and the poor. In this regard Tasneem Siddiqui is of the opinion that "the development strategy of the illegal subdivision is successful because it is not compatible with the socioeconomic condition of the urban poor".[14]
- The high cost of development and/or lease is another factor particularly in case of big urban centers which forces the lower income groups to move towards these areas for comparatively low construction cost for their dwelling.

---

[13] S. Akbar Zaidi, *Issues in Pakistan Economy 2nd Edition*, (Oxford University Press, Karachi, 2005).

[14] Nadeem Ul Haque and Durr-E-Nayab, *Cities - Engines of Growth*, (Pakistan Institute of Development Economics, Islamabad, 2007).

- The lower income groups have a particularly urgent and often desperate need for land and housing, and can not wait for the development process to be completed.
- There is a concurrence of opinion that in case of Islamabad, Capital Development Authority (CDA) unlike the rest of the country has no representation in the framing of national policies, Most policies – not only those related to housing – cater to the needs of the middle and upper classes at the expense of the poor. Moreover, technocrats and policy makers belong to the upper sections of society, and do not have or wish to have a proper understanding of the issues of the urban poor. As a result of it, the deprived and neglected sections have no choice but to look for these squatter settlements as a legitimate destination for shelter.
- The lacunas in the legal and administrative system are also exploited by these squatter dwellers for erecting their building structure on state land without any fear.
- In case of Islamabad, the proximity to work place and other civic amenities is another attraction for these economically marginalized sections of the society to settle here for saving their time and money on traveling cost.
- Provision of cheap domestic labour force by these squatter settlements is an attraction for the residents of surrounding areas to patronize and neglect the development of these unplanned slums within their planned localities. This factor is playing a vital role in the development and the subsequent survival of these squatter settlements in Islamabad.
- Religious minorities particularly Christians, are the most important demographic constituents of these squatter settlements in Islamabad. In 1977 and 1979, when

the sale of liquor was banned by the government[15], the Christians were exempted by this edict of the government. As a result of this ban on the sale of liquor in Pakistan "the affected segment of Islamabad" started to patronize the community for the acquisition of the "required stuff" and in return these illegal settlements got their patronage. That is why, some times, these squatter settlements are dubbed as "liquor driven" squatter settlements.

- Another important factor which is held responsible for the growth of these squatter settlements in Islamabad is "Afghan Jihad". During Afghan Jihad, the refugees from Afghanistan and particularly from Tribal Areas of Pakistan thronged in Islamabad. Due to strategic compulsion and domestic considerations certain "Pashtoon squatter settlements" cropped up in Islamabad e.g. in I-11, were neglected by regulating authorities.
- The phenomenon of "slum politics" is another factor which is playing a vital role in protecting these unplanned and illegal squatter settlements in Islamabad since long. For securing the votes from these squatter settlements the politicians not only vehemently protect these squatter settlements but also clandestinely encourage the squatter dwellers for unchecked expansion for securing maximum electoral support.

2.11. Improvement Strategies

The issue of squatter settlements remained on back burner for a long time. At last, during 1980s the issue got the attention of the authorities and this issue was placed in the development agenda of the federal government. During this period in 1986-87, the

[15] M.Mehmood, *Major Acts 26th Edition*, Prohibition and Enforcement of HADD Order 1979 Article 8 and 11 (P&D Publishers, Lahore), 1118.

development of katchi abadies (squatter settlements) attracted the attention of Federal Government and was included in the "Five-Point socio-economic development programme of the Prime Minister"[16]. In this regard a huge amount of "Rs.730 million has been embarked for improvement of Katchi Abadies in the year 1986-87 alone".[17] In this connection, a strategy was formulated by CDA for the improvement and regularization of the squatter settlements within its jurisdiction. Subsequently, the concerned authorities prepared a plan "on the basis of a 'Settlement policies for Katchi Abadies (slum dwellers) in Islamabad' and was submitted to the government for approval".[18] Unfortunately, due to numerous domestic and financial compulsions, the issue remained on dormant for a long time.

Now as a result of these factors, the dilapidated environmental conditions, political and moral pressures along with international obligations of millennium development goals which contains a particular "clause – target 11 of MDG 7 – to 'significantly improve' the lives of at least 100 million slum dwellers by the year 2020".[19] The United Nations Millennium Development Goals makes it mandatory for the signatories to address the issues of poverty and slum/squatter dwellers in a befitting manner. Proactive polity interventions are needed now if nations are to meet the spirit of target 11 of the Millennium Development Goals and ameliorate the lives of the millions of the poor.[20] The authorities are seriously pursuing to solve this festering issue. Now the authorities are forced to revise their strategy of neglect towards these squatter

---

[16] M. I. Lashkar, *Slum – Dwellers of Islamabad In-depth Study on Urban Housing*, (Research Syndicate, Rawalpindi, 1987), 1.

[17] Ibid.

[18] Ibid.

[19] UN-HABITAT, *Guide to Monitoring Target 11: Improving the Lives of 100 Million Slum dwellers.* (UN-HABITAT, Nairobi).

[20] United Nations Population Fund, *State of World Population 2007 – Unleashing the Potential of Urban Growth*, (New York, 2007), 16.

settlements and adopt a proactive approach for the improvement of these squatter settlements.

Presently, the CDA is working for the improvement of 10 recognized squatter settlements in Islamabad with the application of a three pronged strategy of "Urban Renewal"[21]. According to this strategy, the authorities are executing a comprehensive plan for the improvement of 10 recognized Katchi Abadies (Slum/squatter settlements of Islamabad).

According to the information revealed by the Capital Development Authority "There are ten recognized katchi abadies with a total of 3805 heads of households (i.e. 3805 housing units) in Islamabad.[22] The handout information from CDA reveals that these katchi abadies are being rehabilitated with the application of three concepts of urban Renewal, detail of which is as under:

A. UPGRADATION OF KATCHI ABADIES AT PRESENT SITE IN EXISTING FORM

	Name of Abadi	**No.of Housing Units**
i)	G-7/1	308
ii)	G-7/2	475
iii)	G-7/3	98
iv)	F-7/4	418
	Total:	**1299**

The bonafide dwellers of these abadies are being issued application forms for award of proprietary rights. Out of 1299 heads of housing units, 782 have received application forms and 509 have submitted application forms with down payment. After scrutiny of application forms and completion of formalities, "Proprietary rights" will be awarded and physical infrastructure will be provided i.e. door to door water supply connection, protection measures along the nullah

[21] A handout of CDA Squatter and Slum Planning Section.

sides, sanitary and sewerage system as per site position, and pavement of existing street network. M/S SNGPL and M/S IESCO will provide service connections to the eligible dwellers of these katchi abadis as per CDA's list.

B. ALLOCATION OF KATCHI ABADIES TO ALIPUR FARASH, ISLAMABAD

	Name of Abadi	No.of Housing Units
i)	Muslim Colony	993
ii)	Haq Bahu	243
iii)	Dhoke Najju	182
iv)	Essa Nagri	213
	Total:	**1631**

These abadies have been allocated 1231 plots in MUSP Farash, Islamabad. The scheme of MUSP Farash has been planned in three pockets which are spread over an area of 165 acres consisting 4000 plots measuring 3 marlas each. After completion of formalities, "Proprietary rights" will be awarded. So far CDA has spent an amount of Rs.20,820 million on the provision of construction of roads and streets, drainage/sanitary system and sater supply through community hand pumps. New PC-1 for provision of door to door water supply connection and sewerage system is in progress. M/S SNGPL and M/S IESCO will provide service connections to the eligible dwellers of these katchi abadis as per CDA's list.

C. UPGRADATION OF KATCHI ABADIES AT SITE IN THE FORM OF PLANNED PLOTS

	Name of Abadi	No.of Housing Units
a)	G-8/1	575

[22] Handout information from CDA for the present study.

Out of 575 eligible dwellers of abadi 400 heads of households have been allocated plots in Improvement/Upgradation Scheme of Katchi Abadi in G-8/1 sector and about 300 have been shifted to the allocated plots in the same abadi at different location and remaining allottees have started construction of their houses. Up-gradation of abadi is in process and the remaining dwellers will be allocated plots. All the basic facilities will be provided i.e. door to door water supply connection, protection measures along the nullah sides, sanitary and sewerage system as per site position, and pavement of existing street network. M/S SNGPL and M/S IESCO will provide service connections to the eligible dwellers of these katchi abadis as per CDA's list.

	Name of Abadi	**No.of Housing Units**
b)	F-6/2	300

Katchi Abadi F-6/2 is to be developed by Christian Multiple Cooperative Society. The process of rehabilitation of abadi is held up as the administration of society has not submitted building plans at yet.

CHAPTER 3

DWELLERS & ENVIRONMENTAL CONDITIONS OF G-8 SQUATTER SETTLEMENT

An understanding of the general environmental conditions of the study area demands an analysis of socio-economic and demographic characteristics of its dwellers. Why, when and from where these inhabitants arrived at their present location is pertinent for devising a comprehensive strategy to improve their dilapidating environment. In this regard, Northam opined that the living environment of the city is affected in various ways by the actions or inactions of their residents and, although these have influenced cities in past centuries, they have tended to become endemic and more serious in the recent decades.[1]

For this purpose, the data was obtained from the dwellers of G-8 squatter settlement to assess the inflow of migration on the basis of their areas of origin. The emerging trend is visible from the following statistics:-

---

[1] Ray M.Northam, *Urban Geography, 2nd Edition,* (John Wiley & Sons, New York, 1979), 93-94.

Table No.3.1: Origin of dwellers

Name of District	Persons	Name of District	Persons
Bahawalnagar	1	Sargodha	8
Bahawalpur	1	Toba Tek Singh	8
Rahim Yar Khan	1	Mandi Bahauddin	9
Sibi	1	Gujrat	11
Chakwal	3	Faisalabad	19
Kohat	3	Rawalpindi	21
Muzaffargarh	3	Lahore	40
Jhelum	5	Gujranwala	53
Khanewal	5	Sheikhupura	60
Peshawar	5	Sialkot	78
Attock	6	Islamabad	90
Karachi	6	Narowal	151
Hafizabad	8		

The following map is vividly indicating that the bulk of residents basically belong to Gujranwala and Lahore regions.

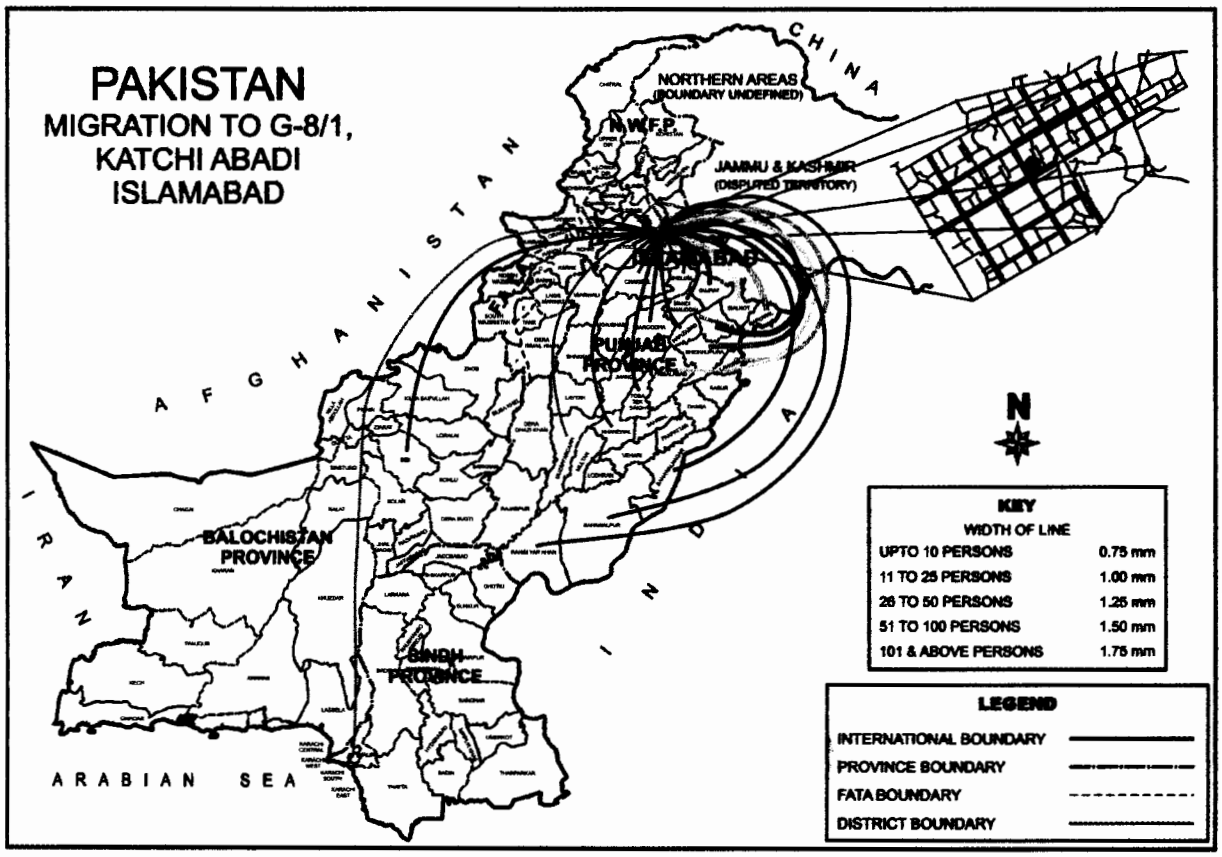


Figure 3.1: Migration to G-8/1, Katchi Abadi Islamabad

These people came here for better economic opportunities. The presence of their relatives in the area played the role of pull factor for these new comers to settle in this locality. It maximizes their access to employment opportunities and proves helpful in maintaining cultural ties with others of the same ethnic background.

The information collected with the help of the questionnaire from the respondents regarding their place of origin also ratifies the same trend. The findings of the case study as presented in table 3.2 indicate that the overwhelming majority of the squatter dwellers, irrespective of their ownership status, are living in the present area due to the economic and financial considerations.

Table 3.2: Reasons of Living Here

Stated Reasons of Living in this Locality	Illegal Dwellers		Allotted Dwellers		Registered Dwellers	
	No.	%	No.	%	No.	%
Easily accessible to work place	30	43.5	8	23.5	18	51.4
Living expenditures are small	16	23.2	17	50.0	13	37.1
Acquaintances live in the vicinity	7	10.1	4	11.8	2	5.7
All of the above	14	20.3	4	11.8	1	2.9
Any other	2	2.9	1	2.9	1	2.9

The majority of the inhabitants are Christian, who left their hearth for economic opportunities, civic facilities and for enjoying the social comfort of cosmopolitan environment of the capital. In the early stages of its development, Islamabad was also in search of working force, so their arrival in Islamabad was welcomed and proved mutually beneficial.

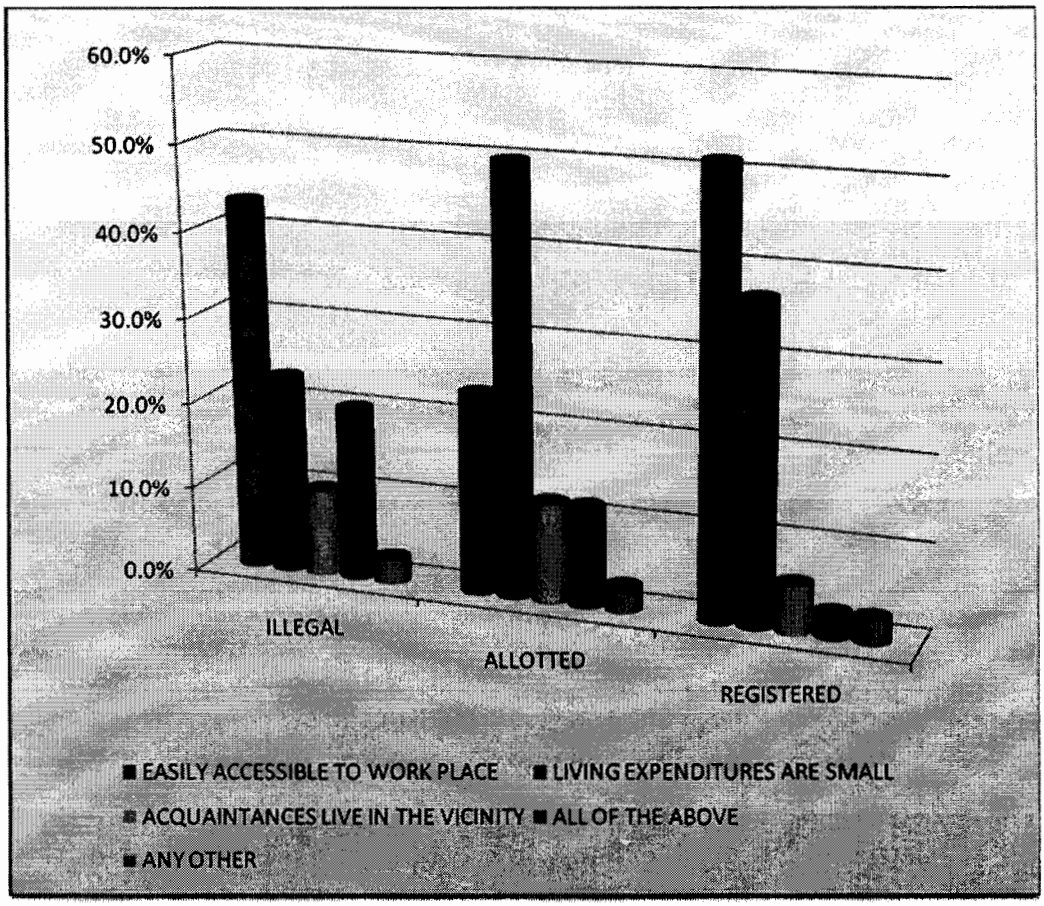


Figure 3.2. Reasons of living here

3.1 Duration of Stay

Duration of stay at a location is another important factor for understanding the prevailing socio-economic trends of an area. In case of G-8 squatter settlement, it was the duration of stay, on the basis of which the ownership status was determined by the Capital Development Authority (CDA). For this purpose, a survey was carried out in this squatter settlement by CDA for determining the ownership status of its inhabitants. The survey classified the entire occupants of this squatter settlement into three categories i.e. illegal occupants, allotted occupants (who have been allotted a plot measuring 30x20 feet

in the same vicinity) and registered occupants (who will be allotted a plot of the same dimension later on).

On the basis of this categorization by the CDA, the question regarding the stay of respondent in their present dwelling was asked. The findings of the table 3.3 reveal that the majority of Allotted (65.7%) and Registered (60.0%) dwellers respectively are living in the study area for the last 16 to 25 years while the majority of Illegal occupants (44.3%) of this squatter settlement are living here for the last 5 years.

Table 3.3: Duration of Stay in the study area

Duration of Stay	Households		
	Illegal %	Allotted %	Registered %
Up to 5 years	44.3	5.7	5.7
6 to 10 years	15.7	0.0	2.9
11 to 15 years	22.9	8.6	8.6
16 to 20 years	10.0	34.3	45.7
21 to 25 years	2.9	31.4	14.3
26 to 30 years	4.3	8.6	17.1
31 to 35 years	0.0	8.6	2.9
36 years & above	0.0	2.9	2.9

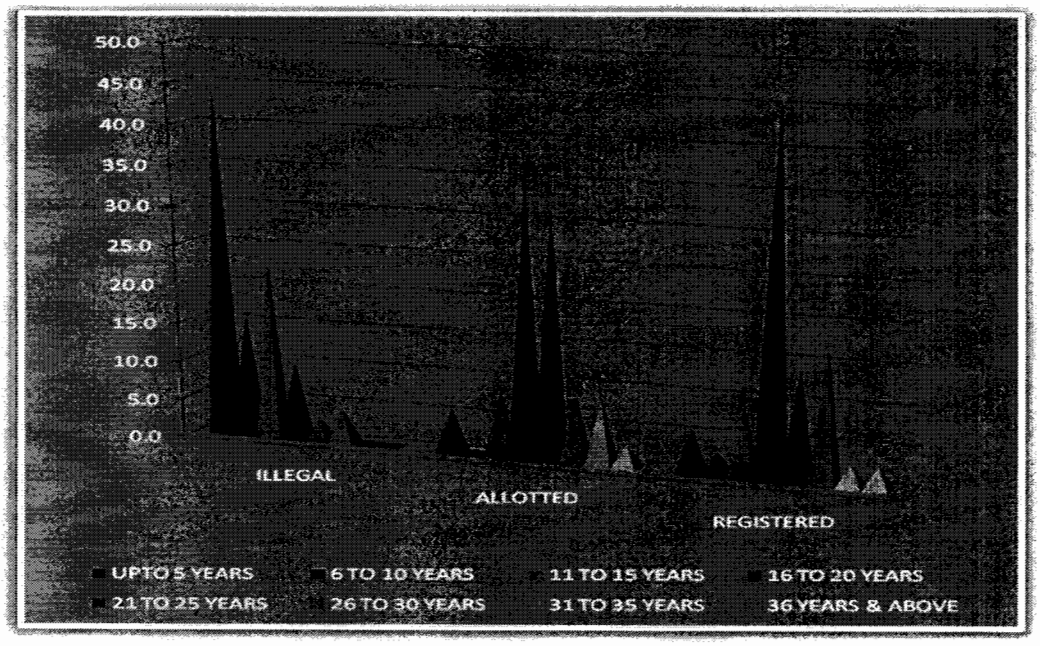


Figure 3.3. Duration of stay in the study area

3.2 Income

The findings of the case study portray a pathetic picture about the economic conditions of the inhabitants of the study area. According to the table 3.4, the average monthly per capita income of 67.9% of the total respondents is up to Rs.1500 per month while only 1.4% of the total respondents are earning more than Rs.4500 monthly. This amount is comparatively very low in case of Islamabad.

Table 3.4: Monthly Per Capita Income

Income	Percentage of Houses
Up to 1500	67.9
1501 - 3000	27.1
3001 - 4500	3.6
4501 & above	1.4

Table 3.4 is self explanatory exhibiting the economic status of the inhabitants of the G-8 squatter settlement.

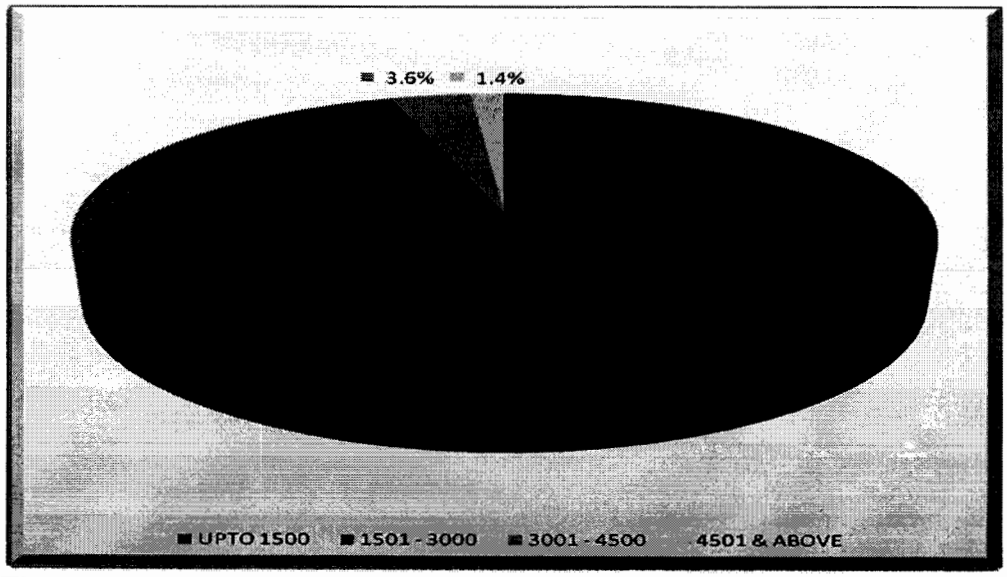


Figure 3.4. Monthly per capita income

3.3. Availability of Water

Water is a prerequisite for the existence and survival of life. The requirement of water for drinking and civic use is increasing as a result of increase in human population and rising standard of life while as compared to this, the available water resources are fixed equally the quality of water available for drinking purposes. Due to the consumption of poor quality of water, water borne diseases are very common among the disadvantaged communities. The non-availability of clean drinking water is a health hazard which adversely affects the meager financial resources of the poor in the form of expenditure on cure. This increased financial stress adversely affects their budgetary arrangements and working capabilities that manifest itself in the form of acute poverty. The resultant poverty ultimately appears in the form of resource depletion and environmental degradation.

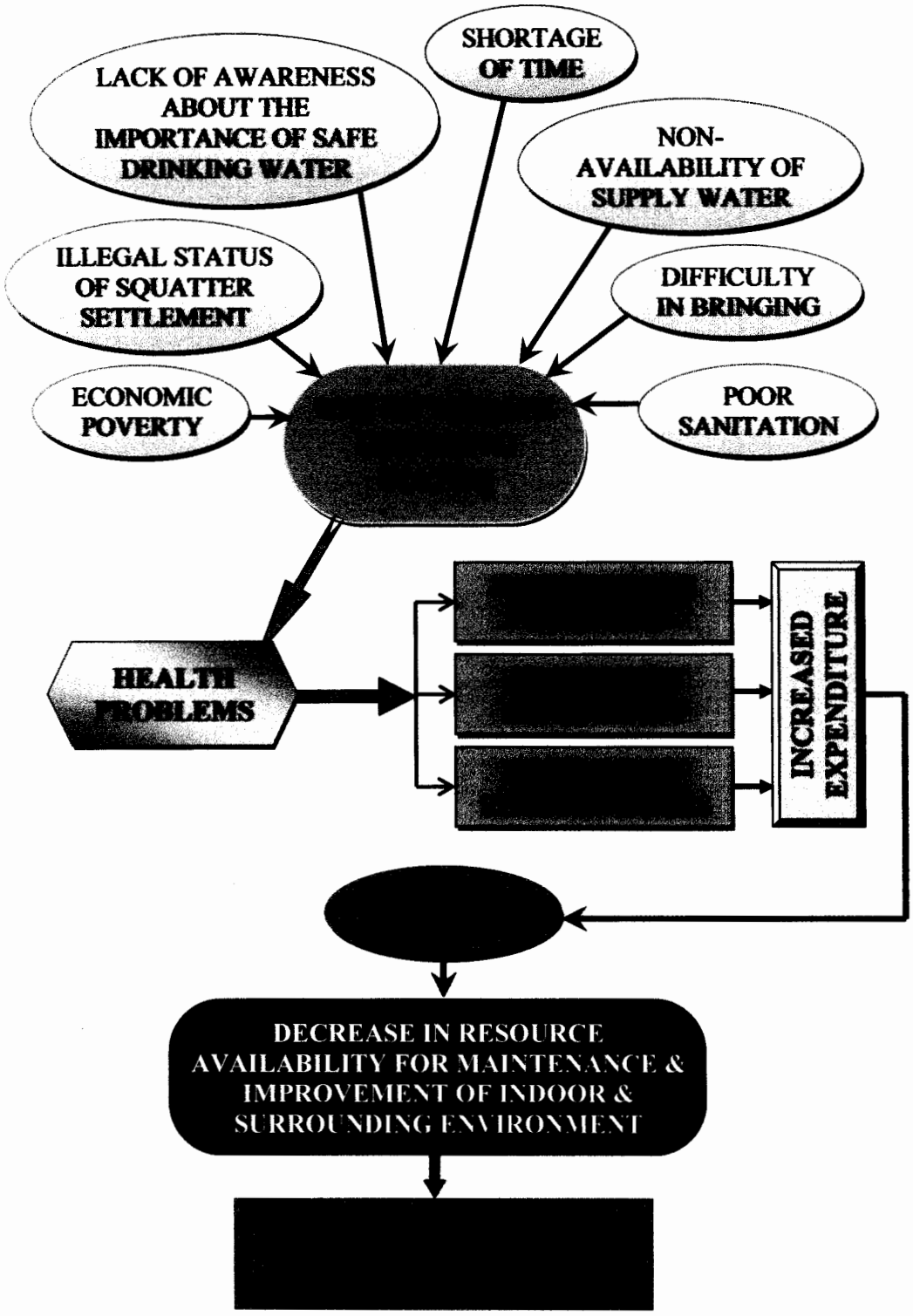


Figure 3.5: Causes and effects of polluted drinking water

In the present study, the specific questions were asked for understanding the relationship between the availability of water for drinking and civic use in G-8 squatter settlement and the expectations of its inhabitants. In the past, due to the uncertain legal status of G-8 squatter settlement, the CDA did not plan the water supply scheme for this area. Now with the determination of its ownership status, the water supply scheme in the study area is being implemented.

The findings of table 3.5 indicate that at present 11.4% of the houses are availing the facilities of piped water supply at their premises. The remaining 88.6% are without this basic facility and are forced to fetch water from alternative sources of water availability. A majority of deprived respondents i.e. 61.4% are relying on public water post for the provision of water.

Table 3.5: Sources of Water Supply

Sources of Water	Household	Percentage
Piped water supply at premises	16	11.4
Public water supply (water post)	86	61.4
Community tank	0	0.0
CDA tanker	2	1.4
Bore hole	26	18.6
Any other	10	7.1

The availability of clean drinking water at the doorstep is the perquisite for the healthy environment. Any further delay in this regard will dash the official initiative for the improvement of the locality.

Although the majority of 88.6% respondents of the G-8 squatter settlement are not availing the facility of piped water supply at their premises but they are aware about the importance of filtered water. Most of the respondents came to know about the importance of filtered water through media and from other people.

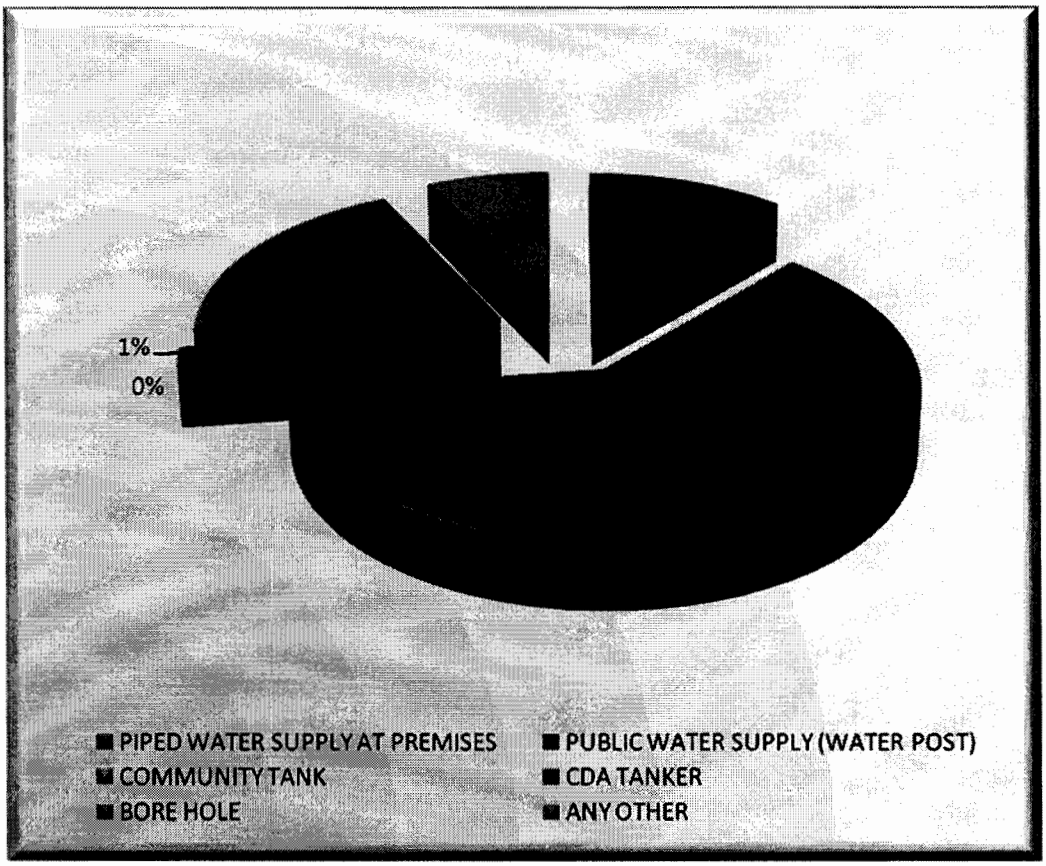


Figure 3.6. Sources of water supply

With the installation of filtration plant in G-8/1 sector, the majority of the squatter dwellers prefer to bring water at least for drinking purposes from this plant. The finding of the case study in table 3.6 illustrates that 98 out of total 140 respondents were aware of the existence of filtration plant in the locality. Thus, filtered drinking water is available and is within their access. Now, it depends upon the individuals whether they utilize this facility or not.

Table 3.6: Utilization of Filtered Water

	Number of Households	Percentage
Yes	98	70.0
No	42	30.0

The table 3.6 also illustrates the fact that despite the awareness about the importance of filtered water and the availability of cost-free filtered water, a substantial portion of 30.0% of the respondents are not utilizing the facility.

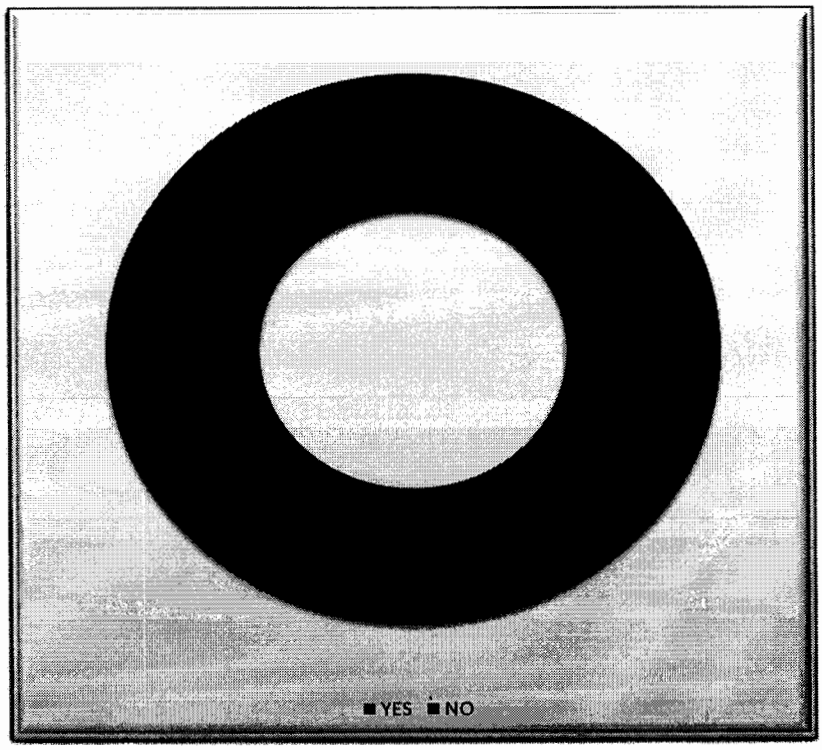


Figure 3.7. Utilization of filtered water

To understand the reasons why some of the households are not utilizing the facility of filtered water, question was asked about the reasons for not utilizing this facility in the case study area. The findings of table 3.7 reveal that the shortage of time and difficulties in fetching water from the filtration plants were the two principal reasons for non-utilization/underutilization of the cost-free filtered water facility by the squatter dwellers. The unpaved and irregular alleys from their homes to filter plants cause inconvenience in getting filtered water. As a consequence, the fetching of filtered water has become a difficult and time consuming exercise under the present conditions. Thus, some of the residents of this squatter settlement are forced to consume the unhygienic water, despite the availability of cost-free filtered water in the area.

Table 3.7: Reasons for not utilizing Filtered Water facility

Options	Households	Percentage
Lack of time	36	25.7
Lack of interest	2	1.4
Difficult to fetch	77	55.0
Any other	5	3.6
No answer	20	14.3

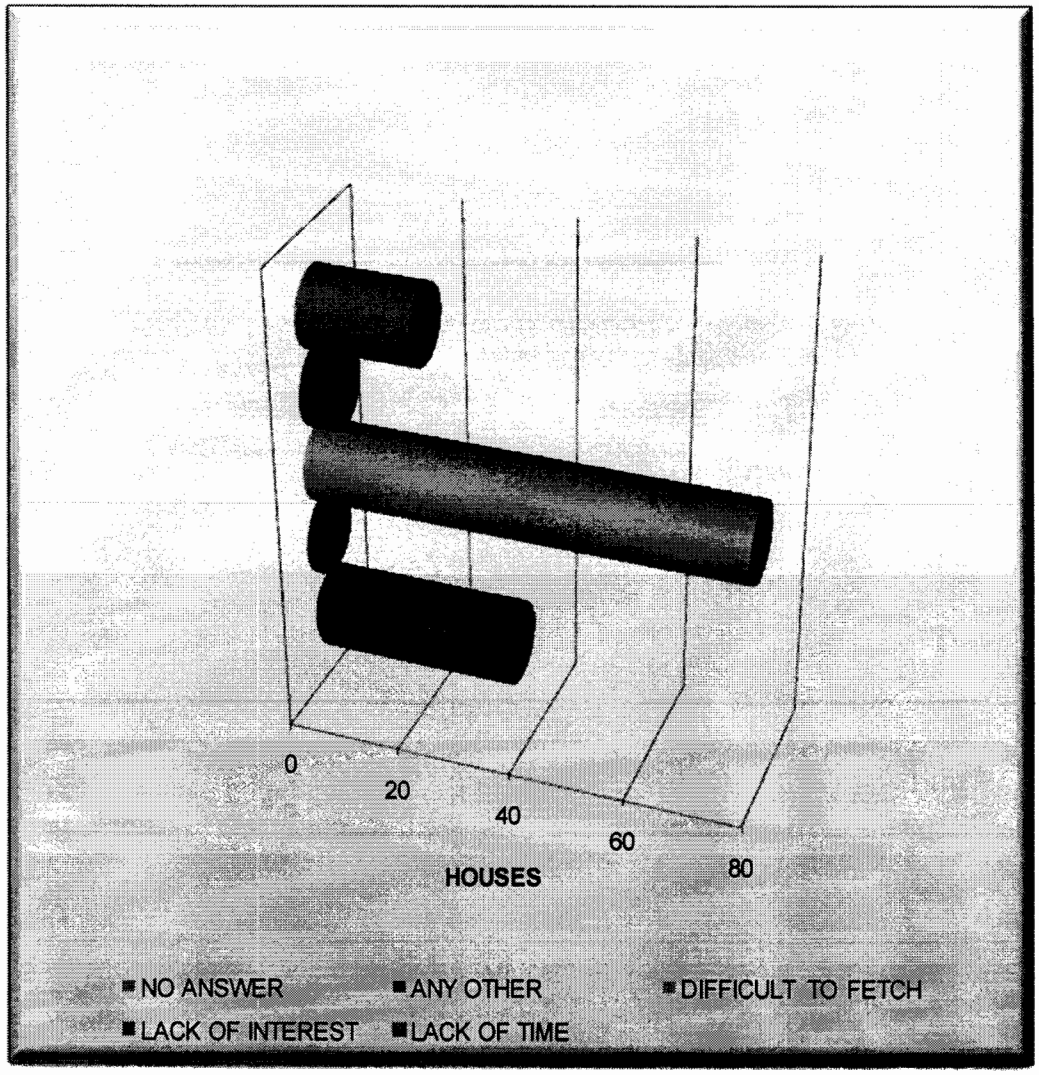


Figure 3.8. Reasons for not utilizing filtered water facility

3.4. Solid Waste Disposal System in G-8 Squatter Settlement

As a result of improper and inefficient waste disposal system, prevailing environmental condition of G-8 squatter settlement is very poor. In this regard, the neglect of the area by civic body (CDA) is visible from the scattered heaps of garbage and filth in and around the settlement. In the absence of an organized waste disposal facility, the inhabitants of the squatter settlement are forced to throw their household waste in and around the squatter settlement without considering the adverse consequences of their action for the health and environment. The findings of the case study in table 3.8 confirm that 74.3% of the total respondents dispose off their household waste in the available open space along with the adjoining nullah (stream), while only 3.6% of the respondents bother to take their household waste to CDA collection point in the vicinity for proper disposal.

Table 3.8: Disposal of Household Solid Waste

Options	Households	Percentage
In streets	10	7.1
CDA collection point	5	3.6
Open Space	104	74.3
Any Other	21	15.0

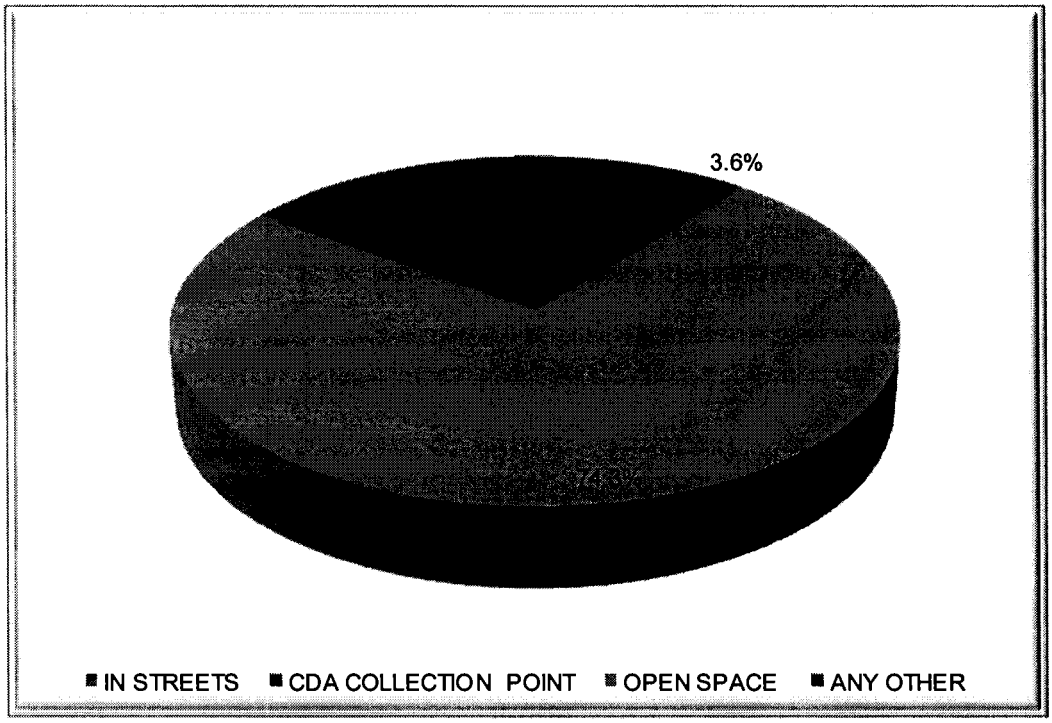


Figure 3.9. Disposal of household solid waste

Besides this, the residents of G-8/1 sector also throw their household waste around this squatter settlement which is responsible for further deterioration of the environmental condition of the area. At present, the nature itself is the only available panacea for their festering household waste. Some of the contents of this waste decay at the site while the non-organic and other hard materials like plastic, tin, glass, etc. not scavenged by young boys for selling, keep on accumulating there unless rainwater washes it away.

The safe disposal of human excreta is considered vital for human health and hygiene. According to the World Health Organization report for year 2002, "among the leading health risk factors in developing countries lack of sanitation and hygiene ranks third".[2] Unfortunately, still there is no operational sewerage system in the area for this purpose. The findings of the case study in table 3.9 confirm that 128 (91.4%) out of the

total 140 households have no sewerage facility in their area. A small minority of 12 households (8.6%), who are living close to the nullah reported the presence of a privately managed sewerage system on self-help basis which shows their environmental consciousness.

Table 3.9: Availability of Sewerage System

	Households	Percentage
Yes	12	8.6
No	128	91.4

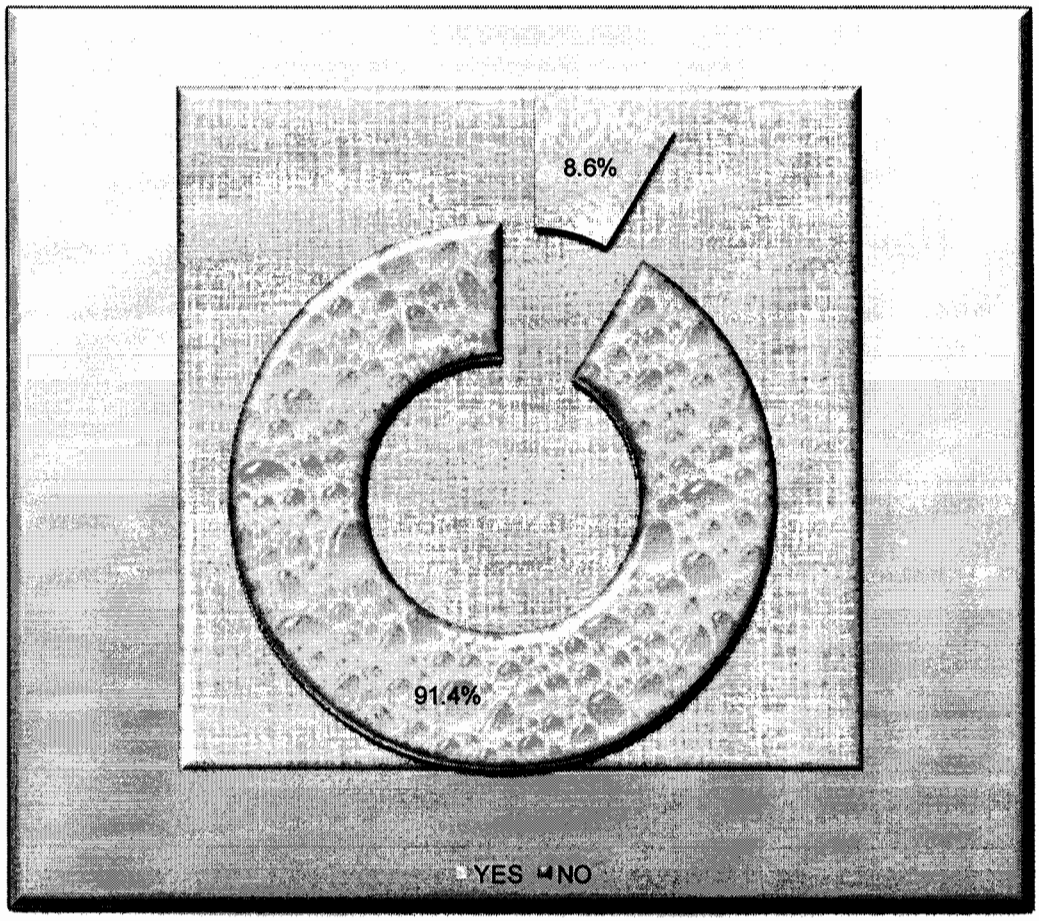


Figure 3.10. Availability of sewerage system

[2] Poverty and Environment – Understanding linkages at the Household level by The World Bank, Washington DC.

The finding of the table 3.10 illustrates that 46.4% of the total respondents are of the opinion that the sewerage system is necessary for the health of the family, while 31.4% of the respondents consider that the presence of sewerage system is a basic household necessity. 16.4% of the total respondents were in favour of this system due to the fact that it promotes cleanliness. Besides this, it was considered economically cheap method for the disposal of human waste by 5.7% of the total respondents.

Table 3.10: Advantages of Sewerage System

Advantages	Households	Percentage
It reduces the chances of diseases	65	46.4
It promotes cleanliness	23	16.4
It facilitates the life	44	31.4
It reduces economic cost	8	5.7

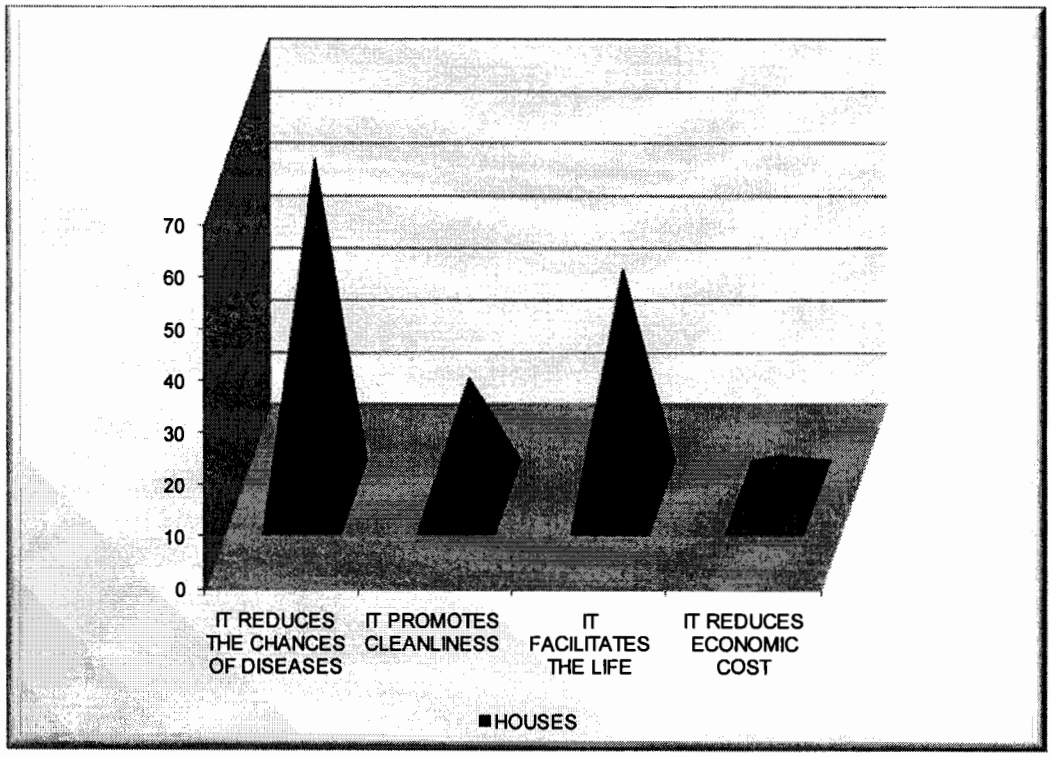


Figure 3.11. Advantages of sewerage system

The findings of the case study in table 3.11 indicate that due to unavailability of an operational sewerage system in the squatter settlement, the majority of the respondents

58.6% are forced to use the old method of bucket latrine. In this regard, it is a reality that in the heart of the capital 8.6% people/inhabitants does not have any facility of toilet and are forced to use the adjoining open space as toilet for this purpose.

Table 3.11: Type of Toilet

Options	Households	Percentage
Bucket Latrine	82	58.6
Soakage Pits	33	23.6
Sewerage Line	12	8.6
No Facility	13	9.3

In the past, the uncertain legal status of the squatter settlement barred the Capital Development Authority from the construction of a public toilet in the area. Now with the rising awareness about the importance of clean environment and health consciousness is stimulating the squatter dwellers to opt for more secure means of human excreta disposal e.g. soakage pits and sewerage lines even on self help basis. The statistics of the table 3.11 confirms that at present, for this purpose, 23.6% and 8.6% of the total respondents are availing these methods for the disposal of human waste. It is important to note that the soakage pits and sewerage lines of this squatter settlement constructed on self-help basis ultimately goes off in nearby nullah that creates environmental problems by polluting the sub-surface water.

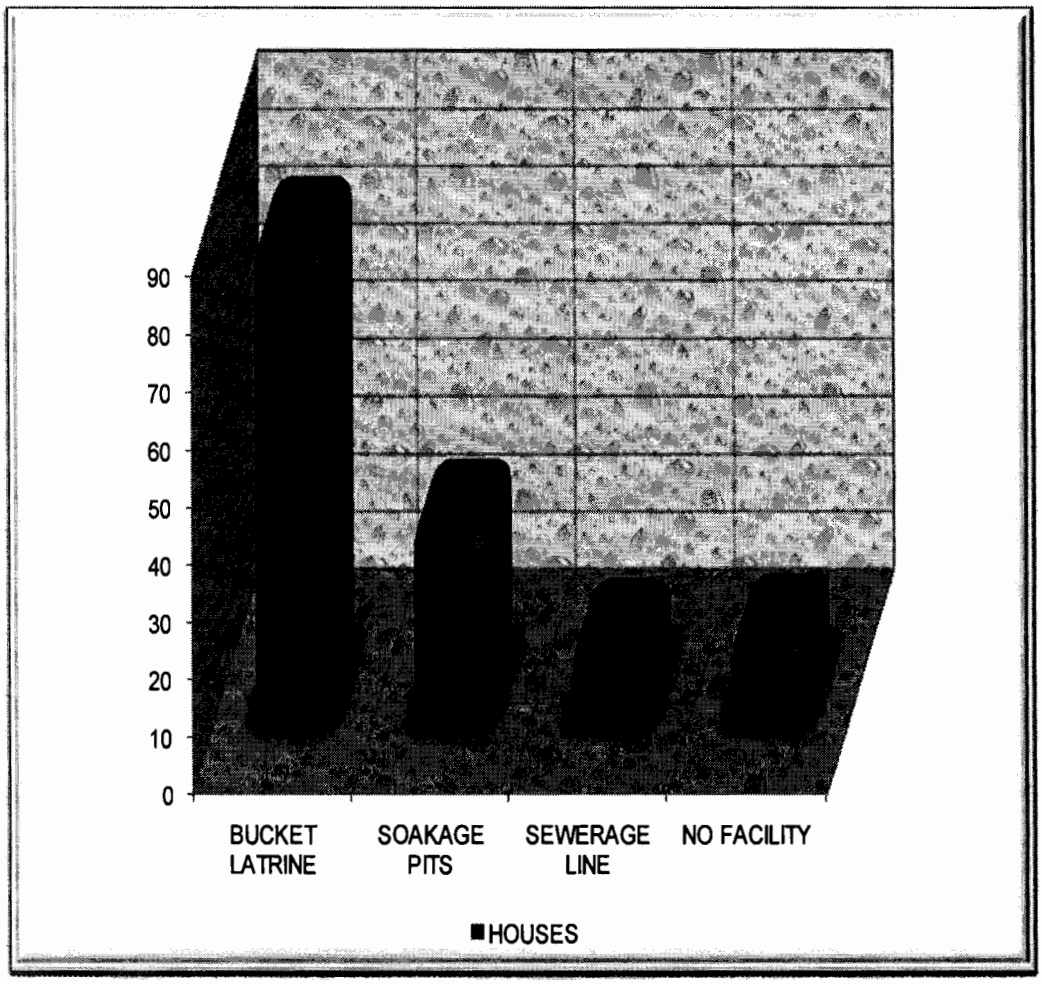


Figure 3.12. Type of toilet

It transpires that with the construction of sewerage system in the area, the facility will get rapid acceptance due to associated advantages of sewerage system.

3.5. General Awareness and Perception about the Environment in the Case Study Area

The finding of the case study of the area in table 3.12 reveals that the majority of respondents (80.7%) irrespective of their economic and ownership status are not satisfied with the provision of civic facilities in the locality. In the absence of requisite amenities of life e.g. electricity, water supply and sewerage system, etc. these poor people are unable and discouraged to strive for environmental friendly initiatives.

Table 3.12: Satisfaction with the Available Civic Facilities

	Households	Percentage
Yes	14	10.0
No	113	80.7
Partially Satisfied	13	9.3

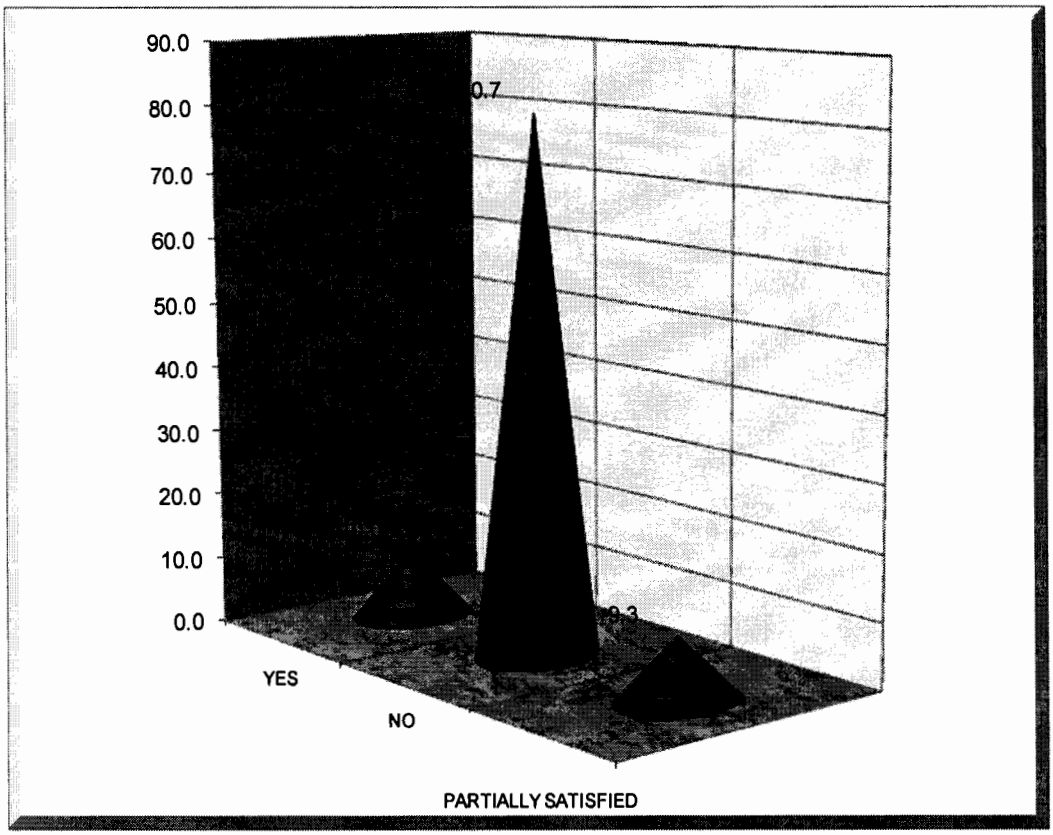


Figure 3.13. Satisfaction with the available civic facilities

The findings of the study are shown in table 3.13 indicating that a majority of (58.6%) respondents opined that the lack of planning by designated authorities (CDA) is mainly responsible for the present state of affair. They are hopeful that the present improvement initiative of the CDA for their squatter settlement will produce positive outcomes within the short period of its implementation. As compared to this, 9.3% of the respondents are of the view that the current heaps of garbage are due to the immoral disposing off waste by the residents of the sector G-8/1. These people, instead of

dumping at the designated point for the waste disposal, throw it around their place of living without impunity.

Table 3.13: Perception about who is Responsible for Poor Environmental Conditions

Perceptions	Households	Percentage
Residents of Sector G-8/1	13	9.3
Squatter Dweller	0	0.0
Traffic Congestion	4	2.9
Lake of Planning by Authorities	82	58.6
Industry	1	0.7
All of the Above	23	16.4
Any Other	17	12.1

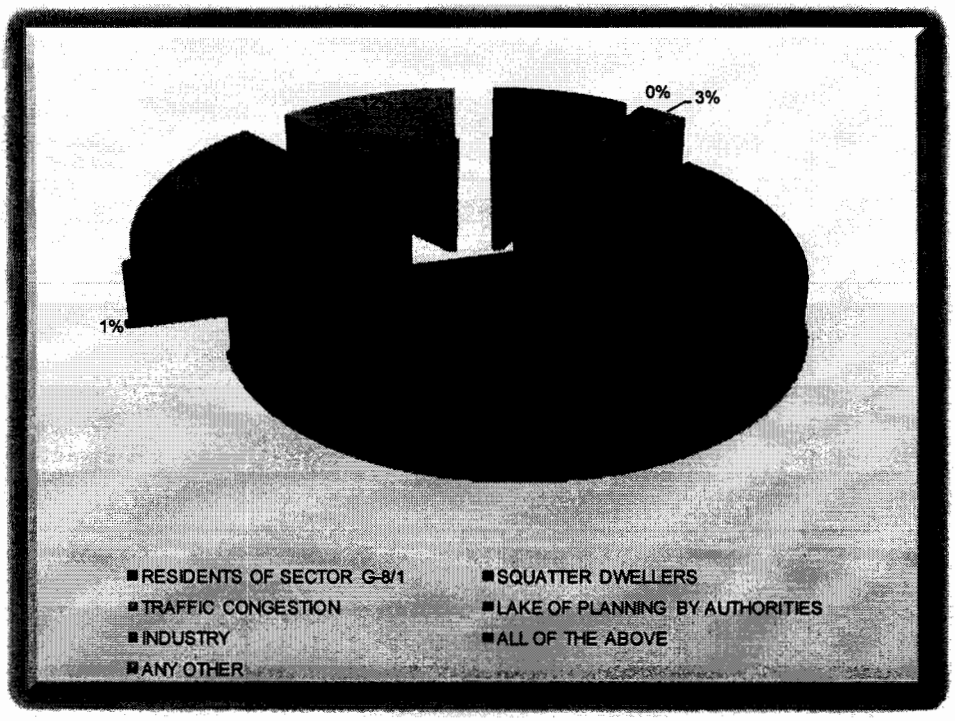


Figure 3.14. Perception about who is responsible for poor environmental conditions

It is interesting to note that the majority of the respondents also confess that they are equally contributing for the environmental degradation of their area. According to the finding of the study in table 3.14, 84.3% of the respondents admit that everybody in the

squatter settlement is generating equal amount of waste and thus equally responsible for the present state of environmental degradation along with the official neglect of their area and unscrupulous residents of the G-8/1 sector.

Table 3.14: Self Assessment about personal role in Environmental Degradation

Options	Households	Percentage
Much Less	1	0.7
About the Same	118	84.3
Much More	21	15.0

It shows that they are aware of the importance of clean environment. In this regard they are not oblivious about their required role for the improvement of their environment and are willing to contribute to the rehabilitation of their degraded environment. For this purpose, the authorities concerned can easily motivate them for environment friendly initiative by facilitating and encouraging them with the provision of required facilities necessary for their survival and improvement of the environment.

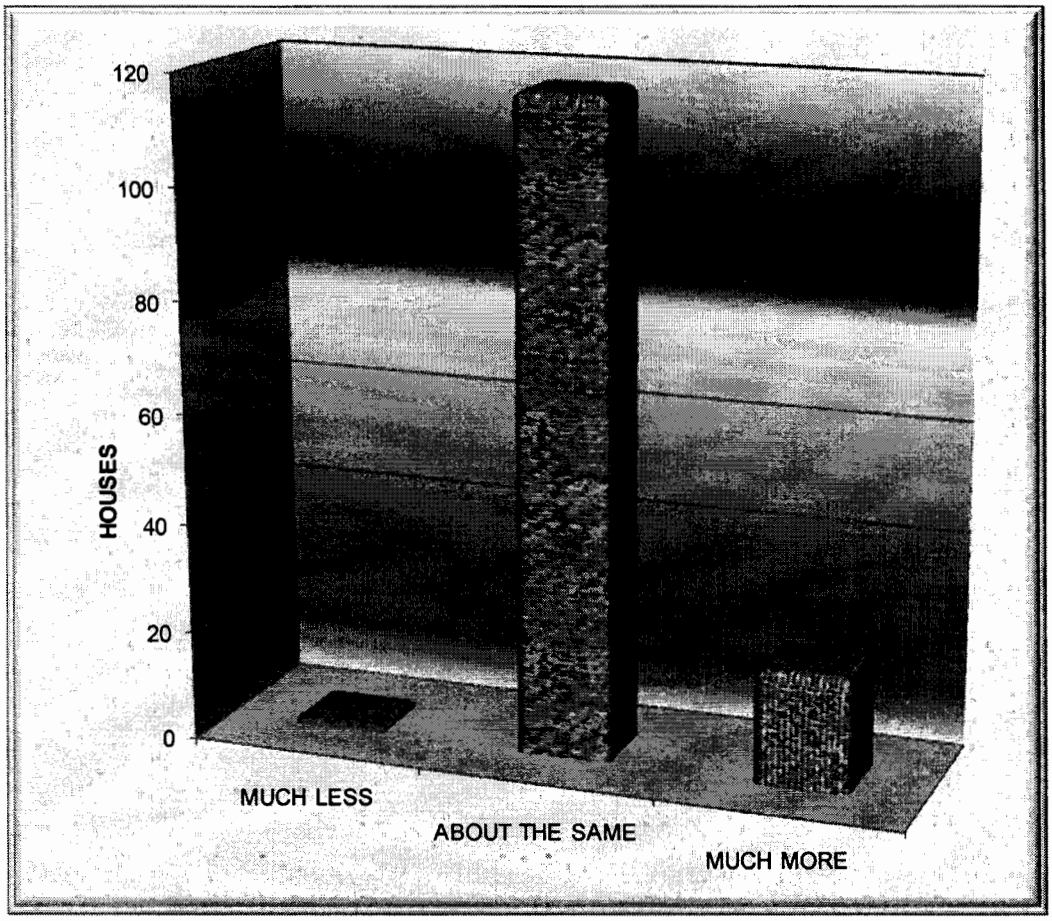


Figure 3.15. Self assessment about personal role in environmental degradation

CHAPTER 4

POVERTY AND ENVIRONMENT NEXUS

In the present age, the urban areas have assumed the status of epicenter of human endeavour for advancement and progress. Scott and Storper believe that the cities are "the locomotive of national economies".[1]

At present, as a result of unprecedented and uncontrolled urban expansion along with inadequate policy response is manifesting itself in the form of a disaster rather than an opportunity. In this regard, there is a saying that "dams do not produce water, they merely store it".[2]

That is why international conference on population and development recommended that "the governments should manage urban developments for safeguarding the environment".[3] As a result, due to international obligations and domestic compulsions, the authorities responsible for managing the city affairs have initiated a number of projects for the improvement of urban environment in Pakistan. Unfortunately, the required attention for the improvement of squatter settlements is seemed to be missing from the focus of official planning. This dichotomous approach of development, particularly in the context of Pakistan, where the acute poverty is also the

---

[1] Nadeem Ul Haque and Durr-E-Nayab, *Cities - Engines of Growth,* (Pakistan Institute of Development Economics, Islamabad, 2007), 11.

[2] S. Akbar Zaidi, *Issues in Pakistan Economy 2nd Edition,* (Oxford University Press, Karachi, 2005), 455.

[3] United Nations Population Fund, *State of World Population 2007 – Unleashing the Potential of Urban Growth,* (New York, 2007), 50.

hallmark of slum and squatter settlements, is responsible for foiling the efforts for the improvement of urban environment.

Keeping in view the prophecy "as the develop,emt would become more urban and as the locus of poverty shifts to cities, the battle to achieve the MDGs will have to be waged in the world's slums".[4] It is incumbent upon the governments of the developing countries to devise comprehensive and well coordinated strategies for the improvement of their slum and squatter settlements. In this regard, Northam opined that the first hurdle to be overcome in dealing with an environmental crisis is to become aware of the existence and magnitude of the problem, the details of it, and the cause of it before the problem can be alleviated or solved.[5] In this connection, a sound understanding of the most important aspect of linkages between poverty and environment at micro level is a prerequisite for the fulfillment of the desired objectives set by the United Nations in Millennium Development Goals.

For this purpose, the primary data about socioeconomic facts was obtained from the dwellers of G-8 squatter settlements for deciphering the intricate relationship between poverty and environment. The processed data was analyzed and tested with the help of three economic indicators which affect the economic condition and perceptions of the poor about life and its associated aspects.

These three economic indicators are:-

1. Average monthly per capita income of the household.
2. Occupancy ratio per room
3. Ownership status of the squatter dwellers

---

[4] United Nations Population Fund, *State of World Population 2007 – Unleashing the Potential of Urban Growth*, (New York, 2007), 15.

[5] Ray M.Northam, *Urban Geography, 2nd Edition*, (John Wiley & Sons, New York, 1979), 93.

4.1. AVERAGE MONTHLY PER CAPITA INCOME

Average monthly per capita income in the case study is being used as a variable, which directly affects the socio/economic condition and perceptions of an individual and

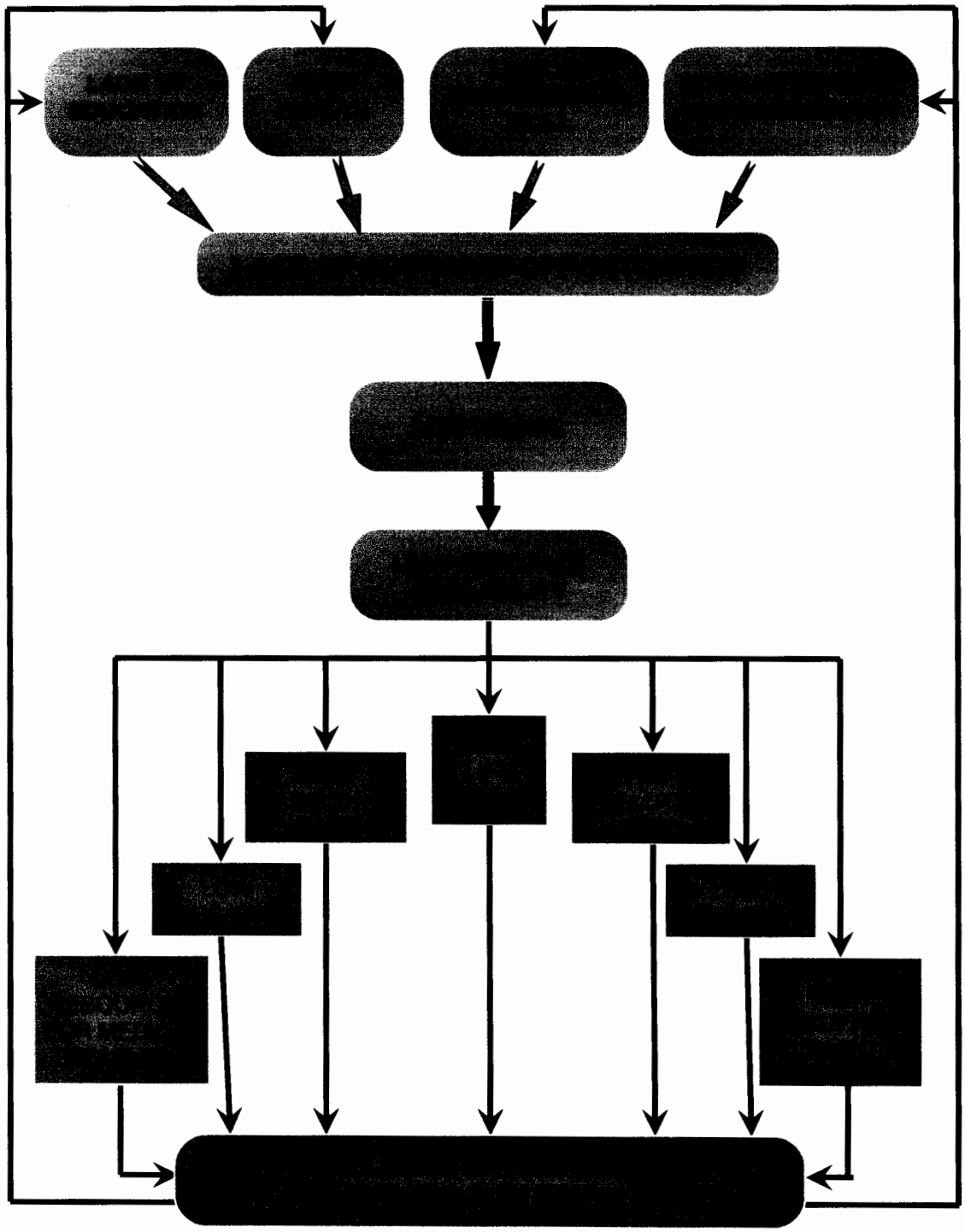


Figure 4.1. Income environment relationship

society about the requirements of the life. For the ease of respondent, the questions were asked about their monthly income and about their source of earning. For the convenience of analysis and interpretation, the entire outcomes were grouped into following four categories of per capita income:

1. Up to Rs.1500 per month
2. Rs.1501- Rs.3000 per month
3. Rs.3001- Rs.4500 per month
4. Rs.4501 & Above per month

4.2. OCCUPANCY RATIO PER ROOM

In the present study, the occupancy ratio of persons per room is being used as proxy variable for understanding the socio-economic and living conditions of the case

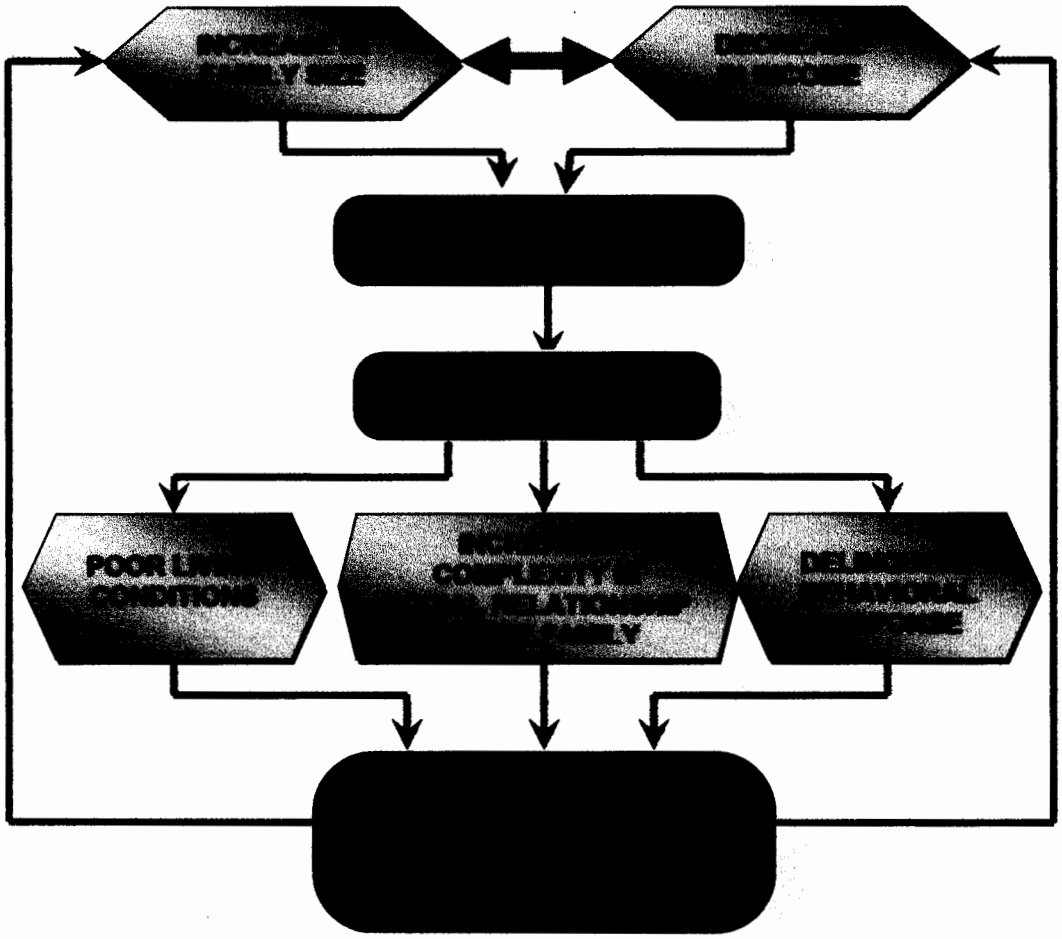


Figure 4.2. Occupancy ratio environment relationship

study area. The occupancy ratio not only tells us about the living environment of the dwellers but it also helps to understand the economic status of the respondents. In this way, we indirectly come to know about the economic conditions of the respondents.

4.3. OWNERSHIP STATUS OF THE SQUATTER DWELLERS

The third variable used in the case study, the ownership status of the dwellers, was hypothesizing and also play decisive role in shaping the nature of relationship between squatter dwellers and their environment. The sense of belonging increases with the sense of ownership and resultantly improved sense of security encourages the poor to behave more prudently towards their immediate environment. While the vice versa is also correct in this regard.

For this purpose, the same criterion was used as it was formulated by the CDA for the implementation of its current initiatives for the improvement of the squatter settlements in G-8.

The current initiative for the improvement and regularization of squatter settlements in Islamabad by CDA requires a thorough academic scrutiny, in-depth study and analysis is essential for understanding the repercussions of the current official policy. The knowledge about the third variable, ownership status, is vital for understanding the poverty environment relationship in G-8 squatter settlements.

4.4 ECONOMIC STATUS

4.4.1 Low Income as a Cause of Living in Squatter Settlements

Table 3.4 throws light on economic conditions of the respondents in the case study area. It illustrates that the poverty is the prevailing reality of G-8 squatter settlement. The finding of the table reveals that 95.0% of the respondents reported that their per capita average monthly income is less than Rs.3000 per month. In the presence

of rising inflation, this meager income is insufficient even for the food requirements and the economic incapacity is evident from their dwelling and physique. Table 3.2, in the preceding chapter, also confirms that irrespective of the categories based upon the per capita income, the majority of the respondents are residing here due to financial compulsions. They are unable to afford the rent for accommodation, besides this, their stay in the G-8 squatter settlement saves them from the traveling expenditure. The findings of the table confirm that the economic considerations are more important for the G-8 squatter dwellers than social factor as a cause of living here.

4.4.2 Economic Status and Fuel Used

The comparison in table 4.1 confirms that higher per capita income enables the people to use environment friendly fuel. Table 4.1 indicates that the respondents of category (Rs.4500 & above) in G-8 squatter settlement prefer LPG (Liquefied Petroleum Gas) cylinders over wood or kerosene oil because it is easily manageable and smoke free fuel. The abject poverty forces the poor to meet the fuel requirements from natural resources. In this regard, free of cost wood and cow dung are the preferred fuel in this locality. The burning of these fuels generates smoke which ultimately, results in the form of respiratory disorders. The resultant environmental problems further squeeze the disadvantaged poor towards abject poverty. In this regard, the World Bank report highlights the fact that "the current scientific consensus indicates that most respiratory health problems result from inhalation of respirable particles released from combustion of solid fuel".[6] In this way, the negative correlation emerges between poverty and environment which is harmful for the latter.

---

[6] The World Bank, *Poverty and the Environment – Understanding Linkages at the Household Level*, (Washington DC, 2008), 44

Table 4.1. Per Capita Income and Consumption of Fuel

Type of Fuel	Percentage of Houses			
	Up to 1500	1501-3000	3001-4500	4501 & Above
Wood	84.2	73.7	40.0	0.0
Gas	1.1	5.3	20.0	50.0
Wood/Gas	3.2	10.5	40.0	50.0
Kerosene Oil	1.1	0.0	0.0	0.0
Not Mentioned	10.5	10.5	0.0	0.0

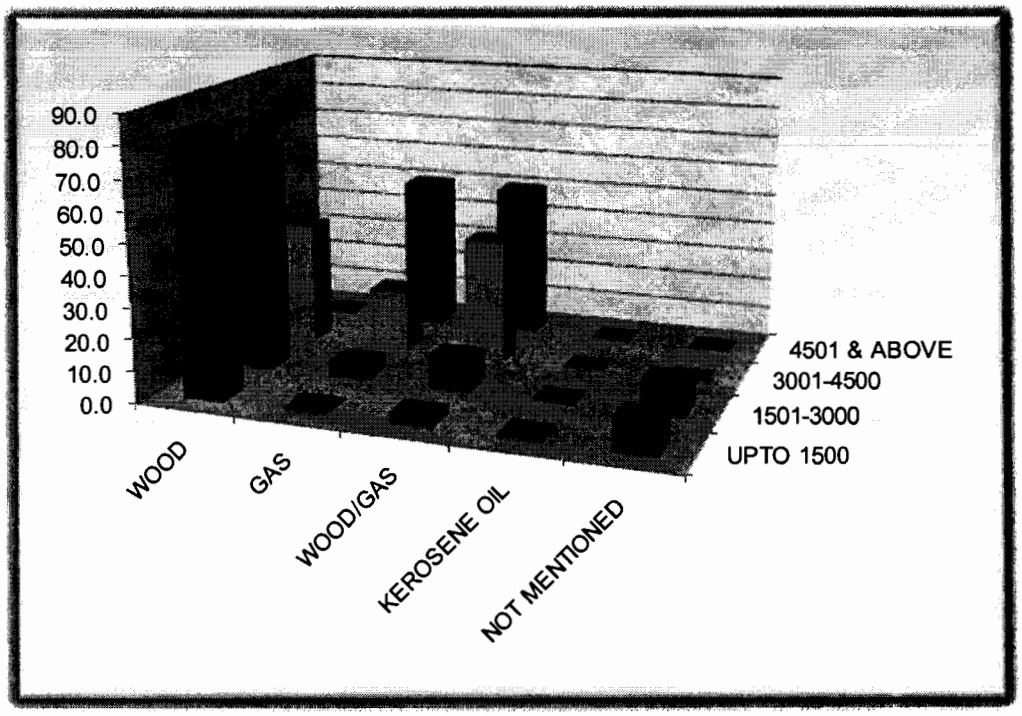


Figure 4.3. Per capita income and consumption of fuel

4.4.3 Economic Status and Medical Treatment

The findings of the study, as given in table 4.2, show that in case of health problems, the majority of households 90.5% in the lowest per capita income group do not consult the doctor for medical treatment due to shortage of financial resources. Although, free of cost medical facilities are available in the nearby PIMS hospital but economic stresses discourage the people in lower income group to avail these facilities. While, on

the other hand, the ratio is comparatively smaller i.e. 50.0% in case of higher per capita income group. The statistics of the table also highlight the fact that the respondents in higher per capita income group in the case study area are able to consult the doctor for private medical treatment during ailments while such tendency is almost non-existent in case of lower per capita income groups. It reinforces the view that in the present age of information availability, resources are still more important than any thing else in the way of medical treatment. It is worth to note here that the lack of medical treatment depletes the working capabilities and thus results in the form of economic stresses. The tendency of non-consultation for medical treatment promotes health problems which adversely affects the financial condition of the affected families. In this way, the poor health of the family members serves as a stress for the living environment of the families.

As a result, there is a two-way relationship between the non-availability of medical facilities and poverty developed that ultimately adversely affects the environment.

The lack of earning as an outcome of the poor health discourages the dweller to spend on personal hygiene and living environment. It negatively results for the environment of the area.

Table 4.2. Non-availability of Medical Treatment

Reasons	Percentage of Houses			
	Up to 1500	1501-3000	3001-4500	4501 & above
Lack of knowledge	4.2	7.9	0.0	50.0
Lack of finance	90.5	78.9	60.0	50.0
Any other	1.1	0.0	20.0	0.0
No answer	4.2	13.2	20.0	0.0

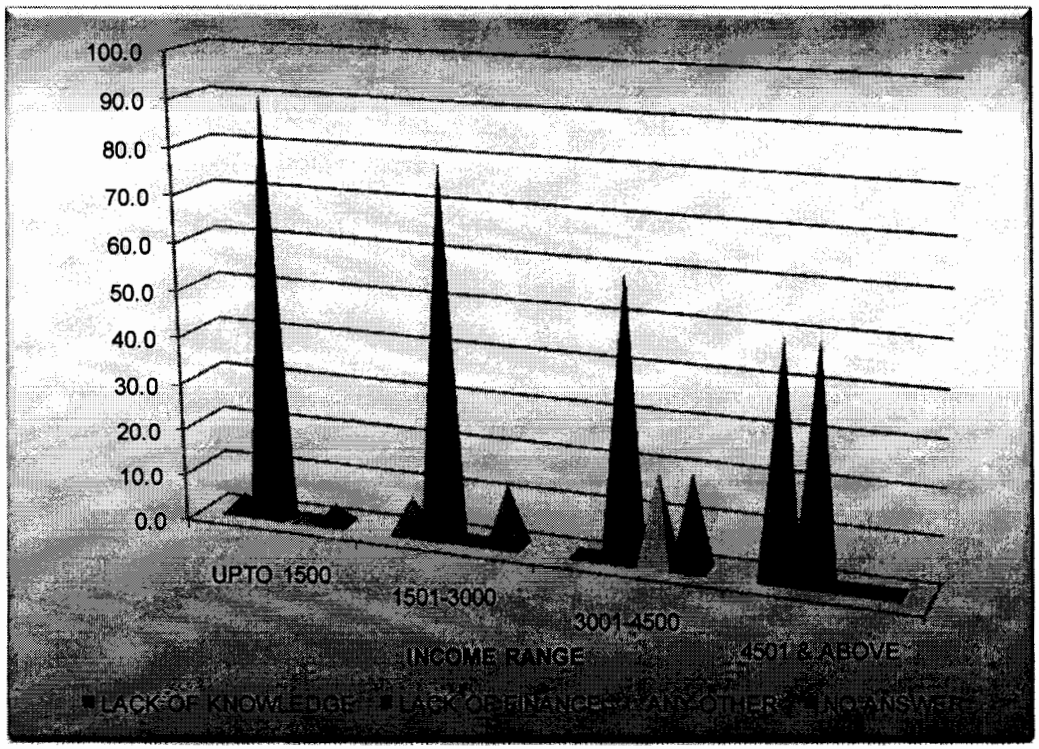


Figure 4.4. Non-availability of medical treatment

4.4.4 Per Capita Income and Priorities of Life:

The result of the case study in table 4.3 transpired that the per capita income influences the human priorities in life. The table also reveals that as a result of economic poverty, the majority of people in lower per capita groups are forced to select economic opportunities as the only option for their struggle in life. The resultant figure 4.3 also illustrates that an increase in per capita income enables the poor to change their focus of orientation in life from economic struggle and give required attention to other pre-requisites of healthy life e.g. provision of civic facilities and improvement of living environment.

Table 4.3. Per Capita Income and Priorities in Life

Priorities	Percentage of Houses			
	Up to 1500	1501-3000	3001-4500	4501 & Above
Economic Opportunities	71.6	63.2	40.0	50.0
Civic Facilities	25.3	28.9	40.0	0.0
Environmental Consideration	1.1	2.6	20.0	0.0
All of the above	2.1	5.3	0.0	50.0

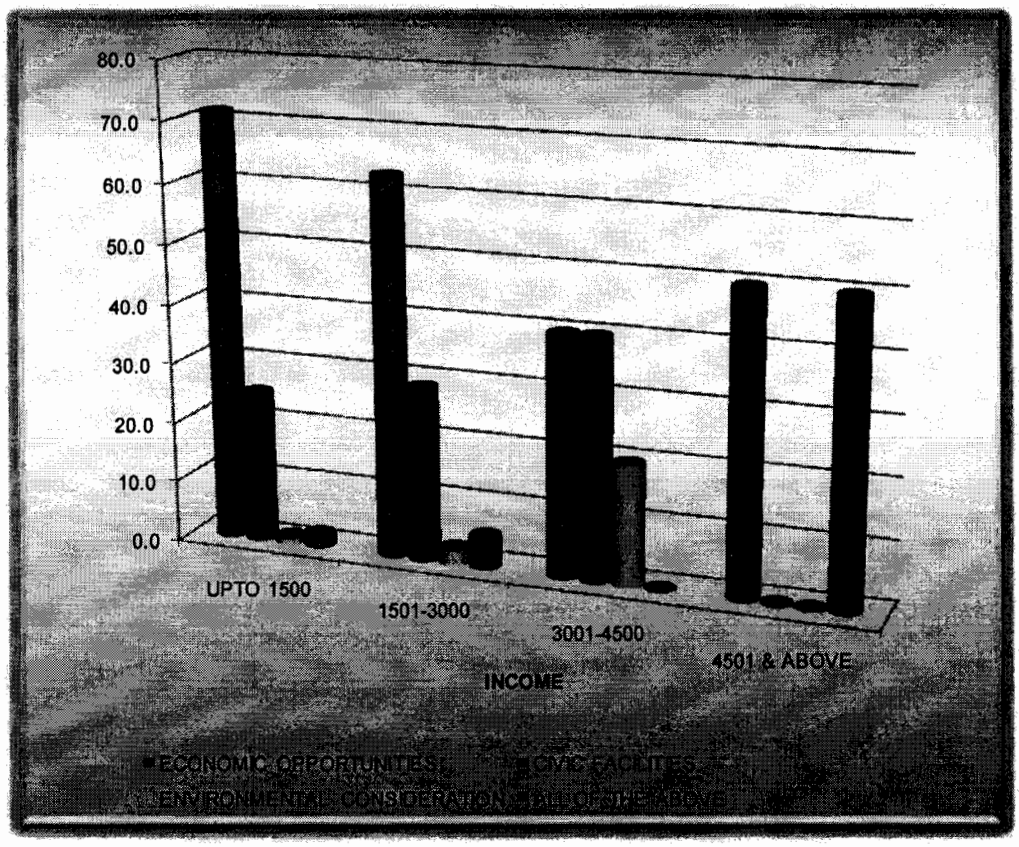


Figure 4.5. Per Capita Income and Priorities in Life

4.4.5 Economic Status and Complacency towards Civic Body Working:

The findings of the case study in table 4.4 suggest that with the improvement of economic condition, the expectations from the performance of civic agency

correspondingly increased. Table 4.4 also brings in the light the fact that the upper most categories of respondents based upon per capita income in G-8 squatter settlement are completely unsatisfied with the working of CDA in their area. While a minority 15.8% each in the bottom of categories in the same area is contended with the performance of CDA. The reason is simple; the lowest income group is always trapped in financial stresses and has no time to think about other requirements of life and its aspects.

Table 4.4. Per Capita Income and Working of CDA

Options	Percentage of Houses			
	Up to 1500	1501-3000	3001-4500	4501 & Above
Yes	15.8	15.8	0.0	0.0
No	84.2	84.2	100.0	100.0

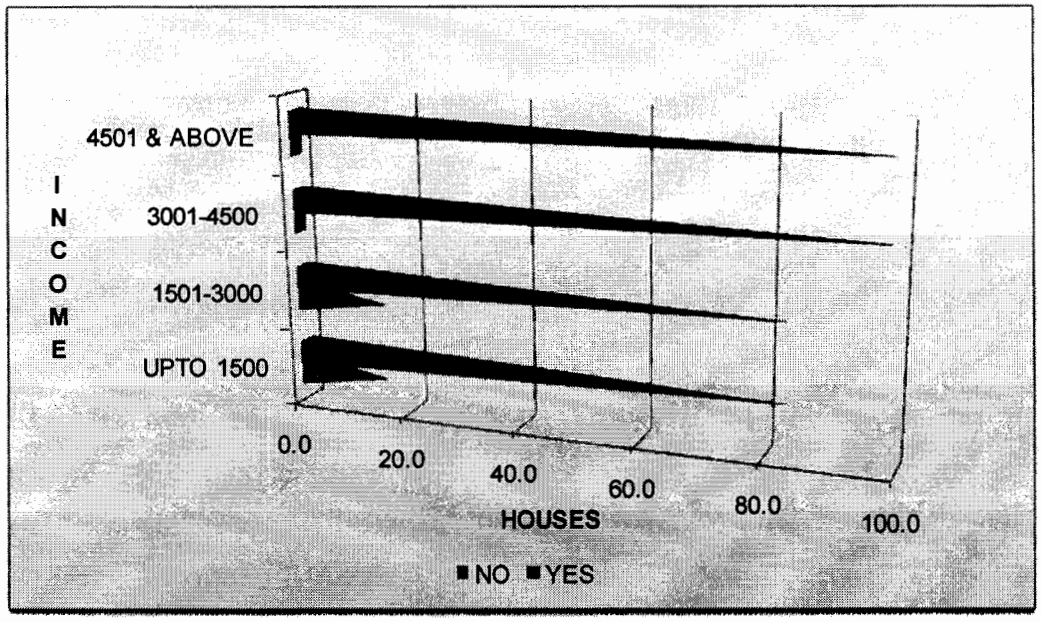


Figure 4.6. Per Capita Income and Working of CDA

4.4.6 Economic Status and Duration of Living in Study Area:

The findings of the case study in table 4.5 also throw light on an interesting aspect of relationship between per capita income and the period of stay of the respondents in G-8 squatter settlement. It reveals an interesting aspect that those who are living here for a

longer time have comparatively higher income than those who are comparatively new comers to the locality. The reason is simple that prolonged/long stay in this locality enables the respondents to find out better prospects of income generation.

Table 4.5. Living Time in Study Area

Duration of Stay	Percentage of Houses			
	Up to 1500	1501-3000	3001-4500	4501 & Above
Up to 5 Years	36.8	13.2	0.0	0.0
6 To 10 Years	8.4	7.9	0.0	0.0
11 To 15 Years	17.9	13.2	0.0	0.0
16 To 20 Years	15.8	28.9	60.0	50.0
21 To 25 Years	9.5	21.1	20.0	50.0
26 To 30 Years	9.5	7.9	0.0	0.0
31 To 35 Years	1.1	7.9	0.0	0.0
36 Years & Above	1.1	0.0	20.0	0.0

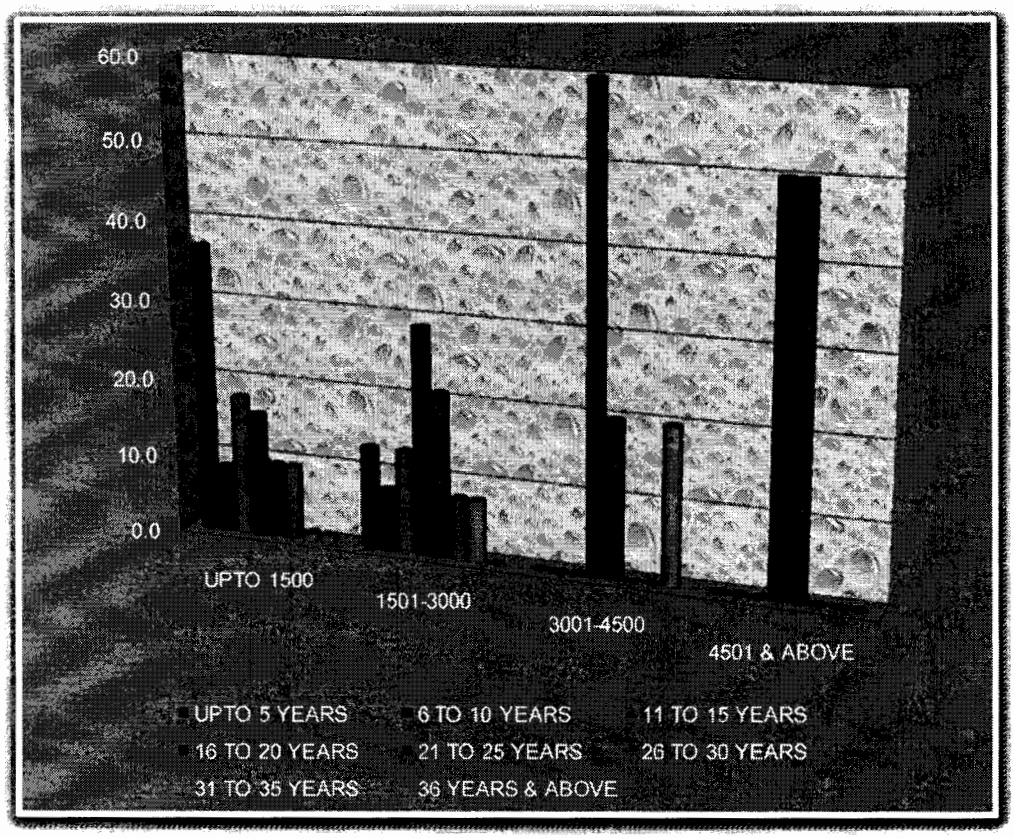


Figure 4.7. Per Living Time in Study Area

4.5 OCCUPANCY RATIO:

Occupancy ratio per room as an economic indicator is a useful yardstick for the assessment of economic and social conditions of an area. It not only tells us about the family size but also informs us about the economic health of the family. As a norm, the smaller occupancy ratio per room is a result of a smaller family size or the availability of a spacious dwelling for the large family. In this connection, the vice versa is also correct. So, on the basis of occupancy ratio per room, the logical predictions about the availability of financial and material resources to a household are possible.

With reference to Islamabad, it has been observed that stock of housing units had lagged behind population growth resulting in rising trend in household size leading to congestion. While the situation in this regard is more acute and pathetic as far as the situation in G-8 squatter settlement is concerned. The findings of the case study in table 4.4 about the occupancy ratio per room indicate the poor economic condition of the respondents. It shows that 37.1% of the respondents reported that their 4 to 5 family members share a single room, while another 33.6% respondents reported that 6 to 8 of their family members share one room. The findings of the table 4.4 are sufficient to show the socio-economic and internal living environment of the dwellings in G-8 squatter settlement.

Table 4.6. Persons per room

Persons	Number of Households	Percentage
Up to 3	36	25.7
4 - 5	52	37.1
6 - 8	47	33.6
9 & Above	5	3.6

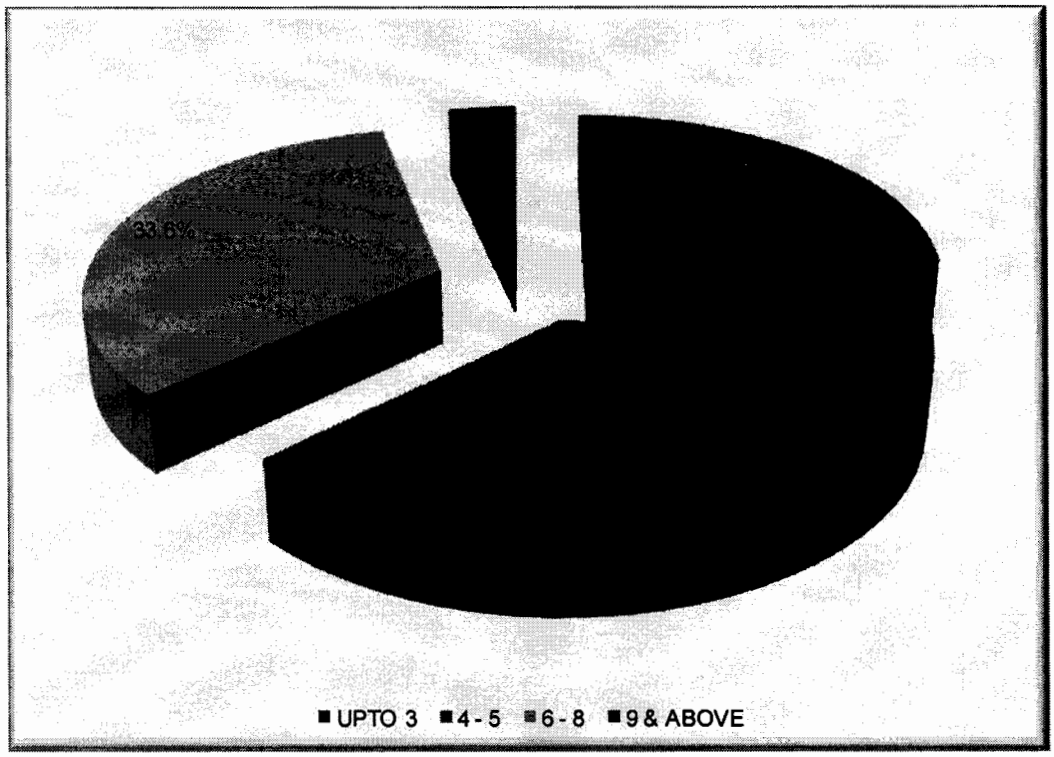


Figure 4.8. Persons per room

For the sake of simplicity and comparison, the information about the occupancy ratio per room has been grouped according to the following categories:-

1. Up to 3 persons in a room
2. 4 – 5 persons in a room
3. 6 – 8 persons in a room
4. 9 & Above persons in a room

4.5.1 Occupancy Ratio and Construction Material of the Dwelling:

Construction material of the dwelling is an important indicator regarding the living environment of the dwelling. The finer and durable construction material not only improves the internal environment of the household but it also promotes the external environment of the neighbourhood.

The findings of the case study about the construction material used in the dwelling of the household in table 4.5 clearly depict the relationship between occupancy ratio and construction material used in the house. The findings of the table 4.5 clearly

convey that smaller the occupancy ratio per room of the household the more durable the material used for the construction of the house.

Table 4.7. Occupancy Ratio and Construction Material Used

Categories	Wall				Outer Wall				
	Plastered Cement Blocks	Un Plastered Cement Blocks	Stone/ Mud/ Planks	Canister/ Cloths	Plastered Cement Blocks	Un Plastered Cement Blocks	Stone/ Mud/ Planks	Canister/ Cloths	No Outer Boundary
Upto 3	18.4	28.6	51.0	2.0	16.3	14.3	65.3	4.1	0.0
4 - 5	19.4	25.0	52.8	2.8	13.9	11.1	66.7	5.6	2.8
6 - 8	14.9	19.1	61.7	4.3	4.3	6.4	74.5	10.6	4.3
9 & Above	0.0	40.0	60.0	0.0	0.0	0.0	80.0	20.0	0.0

Categories	Floor				Floor			
	Bricks	Partly Plastered	Katcha (Mud/Sand)	Any Other	RCC	Tiles	Planks/ Mud	Any Other
Upto 3	30.6	22.4	44.9	2.0	20.4	4.1	71.4	4.1
4 - 5	38.9	16.7	44.4	0.0	11.1	5.6	80.6	2.8
6 - 8	10.6	21.3	68.1	0.0	8.5	2.1	85.1	4.3
9 & Above	20.0	40.0	40.0	0.0	0.0	0.0	100.0	0.0

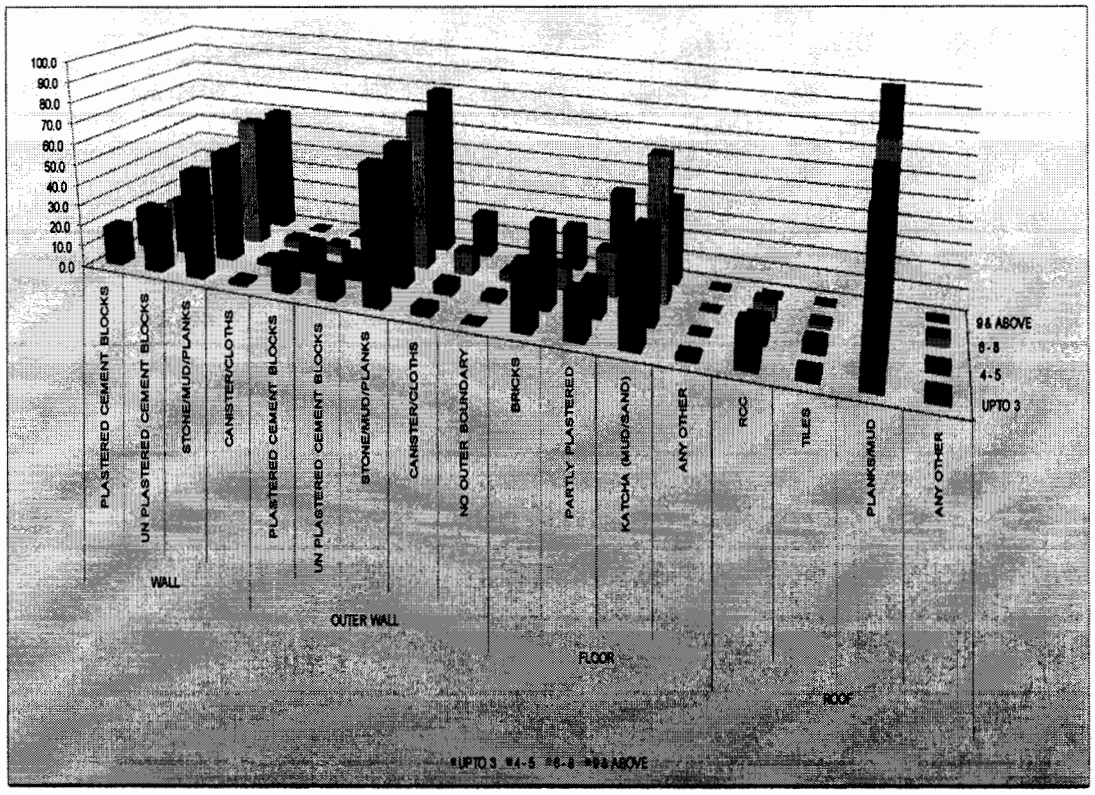


Figure 4.9. Occupancy Ratio and Construction Material Used

4.5.2 Occupancy Ratio and Fuel Used:

The tendency towards fuel used placed a decisive role in formulating the internal condition of the living environment. The information about the fuel use can serve as an important yardstick to know about the internal living environment of the family.

The findings of the case study regarding the linkages between the occupancy ratio and fuel used in table 4.6 support the fact that the respondents having a lower occupancy ratio per room are comparatively inclined more to use smoke free and easy to burn fuel for domestic use as compared to the higher occupancy ratio per room category.

Table 4.8. Consumption of Fuel

Type of Fuel	Percentage of Persons per Room			
	Up to 3	4 - 5	6 - 8	9 & Above
Wood	46.2	33.3	78.7	100.0
Gas	23.1	11.1	0.0	0.0
Wood/Gas	26.9	33.3	12.8	0.0
Kerosene Oil	0.0	11.1	2.1	0.0
Not Mentioned	3.8	11.1	6.4	0.0

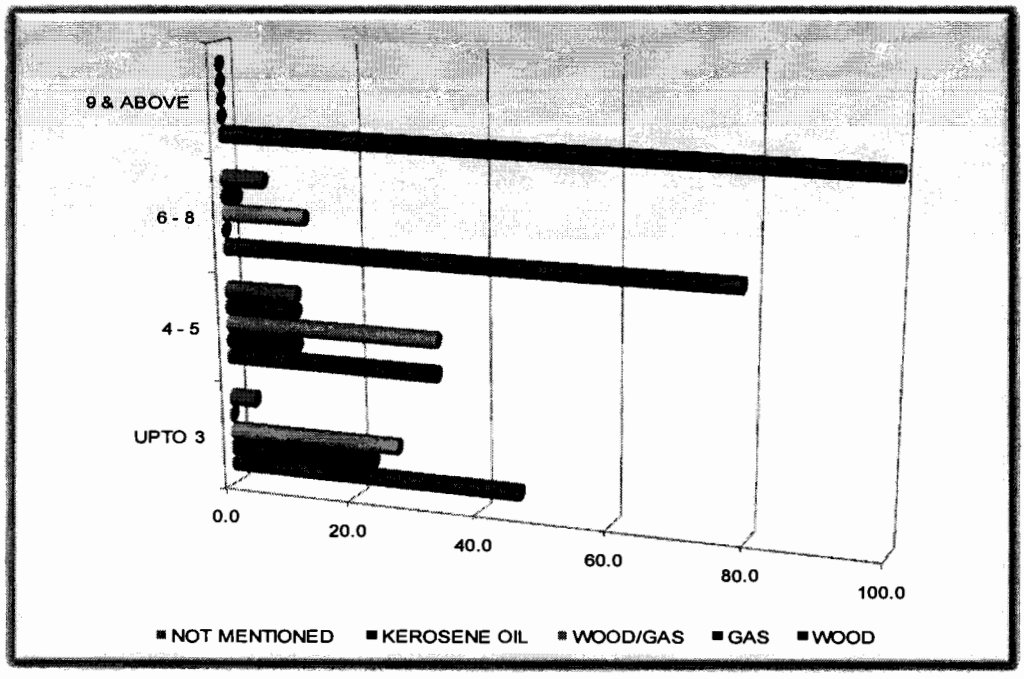


Figure 4.10. Consumption of Fuel

4.5.3 Occupancy Ratio and Level of Education:

The occupancy ratio is an indirect economic indicator and generally a lower occupancy ratio per room is a sign of sound economic health of the household which encourages the household for education. It is a fact that the level of education directly affects the prevailing environment of an area. The education improves the health consciousness of the people about their environment. The direct effects of education on health and environment are very vital and far reaching. In this regard, the World Bank report regarding poverty and environment suggests that "health information can lead to behavioral responses that mitigate the adverse health effects of poor environmental conditions more than increases in wealth or improvements in education".[7]

Table 4.7 clearly suggests that there is a logical correlation between occupancy ratio and the level of education in the G-8 squatter settlement.

Table 4.9. Occupancy Ratio and Level of Education

Level	Percentage of Persons per Room			
	Up to 3	4 - 5	6 - 8	9 & Above
Illiterate	38.5	63.9	76.6	80.0
Primary	19.2	16.7	10.6	0.0
Middle	19.2	8.3	6.4	0.0
Matriculation	17.3	8.3	6.4	20.0
Intermediate	3.8	2.8	0.0	0.0
Graduation	1.9	0.0	0.0	0.0

The findings of table 4.7 indicate that the tendency for acquisition of education is more in families having the small occupancy ratio.

[7] The World Bank, *Poverty and the Environment – Understanding Linkages at the Household Level*, (Washington DC, 2008), 63

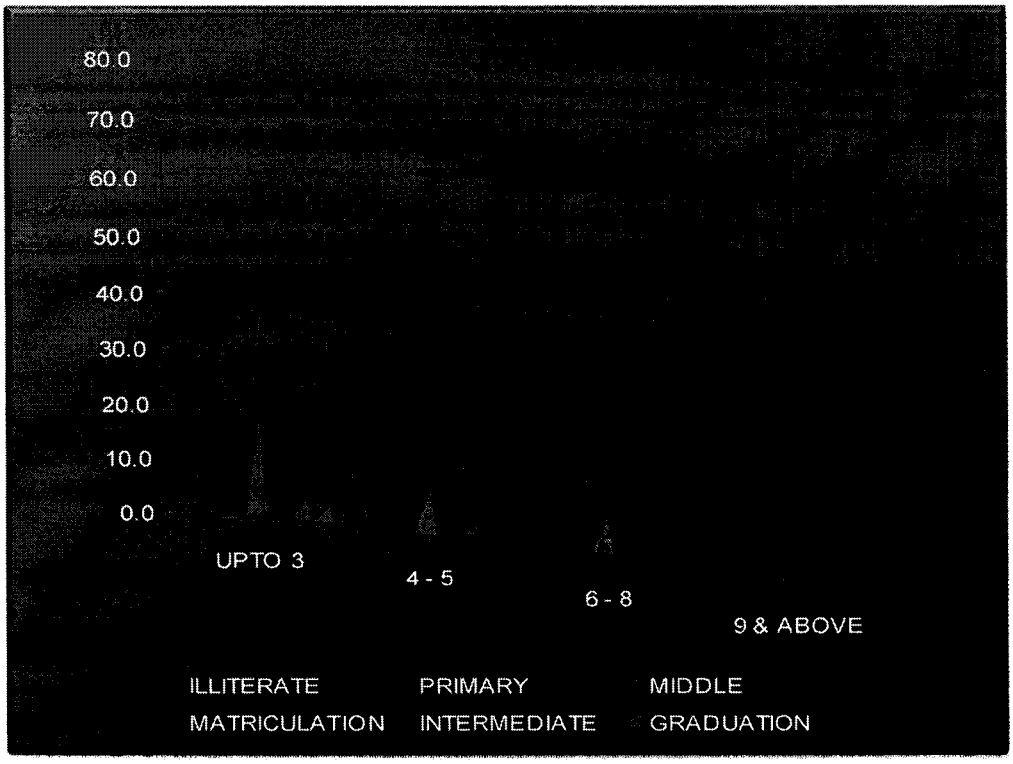


Figure 4.11. Occupancy Ratio and Level of Education

4.5.4 Occupancy Ratio and Number of Rooms:

Findings of table 4.8 confirm that there is a direct relationship between the occupancy ratio and number of rooms in a dwelling. The smaller occupancy ratio is either a result of small family size or due to the availability of more rooms in a dwelling. The latter tells us about the financial soundness of the family too. The lower occupancy ratio promotes the social and physical environment within the housing unit.

Table 4.10. Occupancy Ratio and Number of Rooms

Number of Rooms	Percentage of Persons per Room			
	Up to 3	4 - 5	6 - 8	9 & Above
No Room	5.8	0.0	0.0	0.0
One Room	15.4	44.4	93.6	100.0
Two Rooms	40.4	52.8	6.4	0.0
Three Rooms	23.1	0.0	0.0	0.0
Four Rooms	11.5	2.8	0.0	0.0
Five Rooms	3.8	0.0	0.0	0.0

Figure 4.12. Occupancy Ratio and Number of Rooms

4.5.5 Occupancy Ratio and Per Capita Income:

The findings of the case study in table 4.9 indicate an inverse correlation between occupancy ratio and per capita income i.e. the lower the occupancy ratio the higher the per capita income and vice versa is also correct.

Table 4.11. Occupancy Ratio and Per Capita Income

Income Range	Percentage of Persons per Room			
	Up to 3	4 - 5	6 - 8	9 & Above
Up to 1000	15	33	60	60
1001 To 2000	62	58	34	40
2001 To 3000	12	8	6	0
3001 To 4000	10	0	0	0
4001 & Above	2	0	0	0

The resultant per capita income directly affects the environmental condition at micro level.

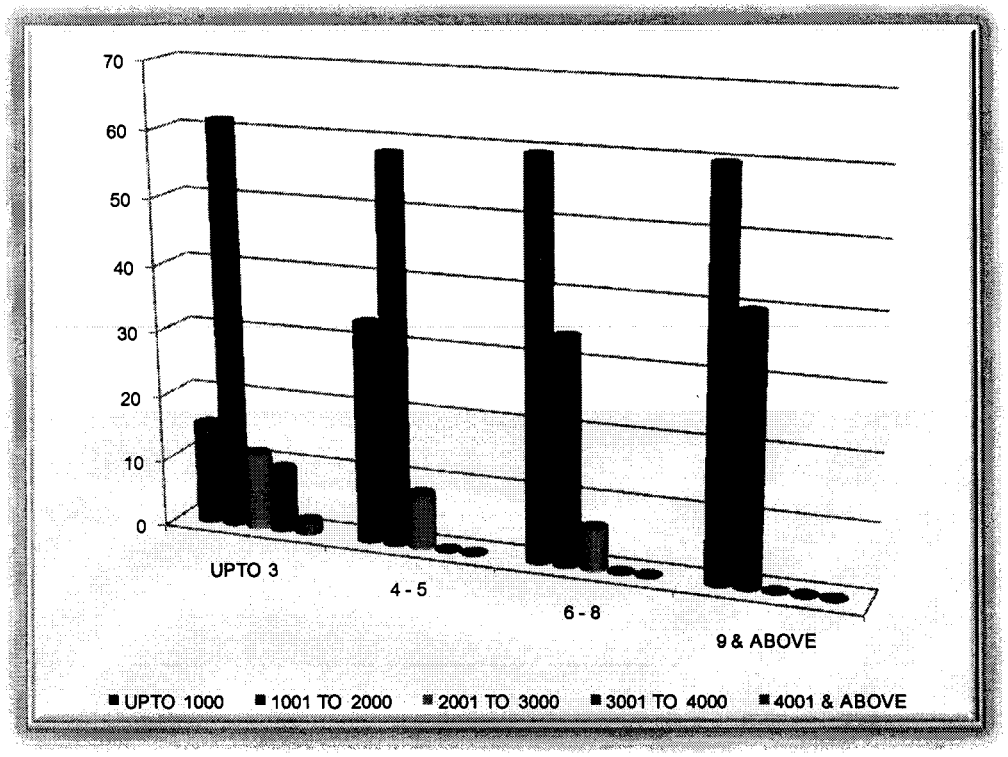


Figure 4.13. Occupancy Ratio and Per Capita Income

4.5.6 Occupancy Ratio and Priorities in Life:

Low occupancy ratio is a healthy sign for the economic health of the family. As a whole, the economic conditions of the dwellers in G-8 squatter settlement are not good which forces them to concentrate more on economic opportunity than any thing else.

The minute scrutiny of the case study findings in table 4.10, based upon occupancy ratio and priorities in life reveals that comparatively good economic conditions of the low occupancy categories promotes the dwellers to look beyond economic opportunities and consider civic facilities and environment as an important aspect of their lives.

Table 4.12. Occupancy Ratio and Priorities in Life

Priorities	Percentage of Persons per Room			
	Up to 3	4 - 5	6 - 8	9 & Above
Economic Opportunities	51.0	55.6	72.3	60.0
Civic Facilities	25.5	19.4	19.1	20.0
Environmental Consideration	7.8	0.0	0.0	0.0
All of the Above	15.7	25.0	8.5	20.0

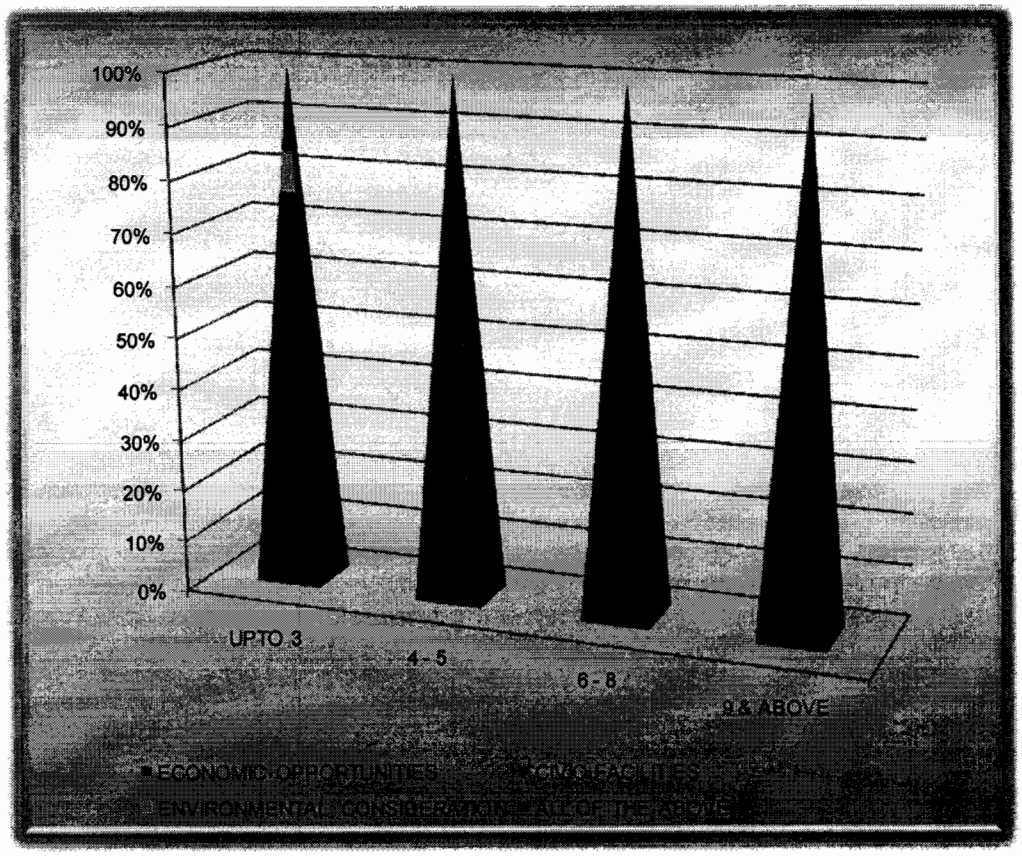


Figure 4.14. Occupancy Ratio and Priorities in Life

4.5.7 Occupancy Ratio and Satisfaction Status Regarding Quality of Water:

The findings of the case study regarding the relationship between occupancy ratio and satisfaction of respondents for the quality of available water is evident from the findings of table 4.11.

Table 4.13. Occupancy Ratio and Quality of Water

Options	Percentage of Persons per Room			
	Up to 3	4 - 5	6 - 8	9 & Above
Yes	11.8	25.0	68.1	60.0
No	62.7	44.4	21.3	20.0
Partially Satisfied	25.5	30.6	10.6	20.0

The findings of table 4.11 verify that the low occupancy ratio enhances the expectation level of the respondents owing the available civic amenities in the area. While the vice versa is also correct in case of higher occupancy ratio.

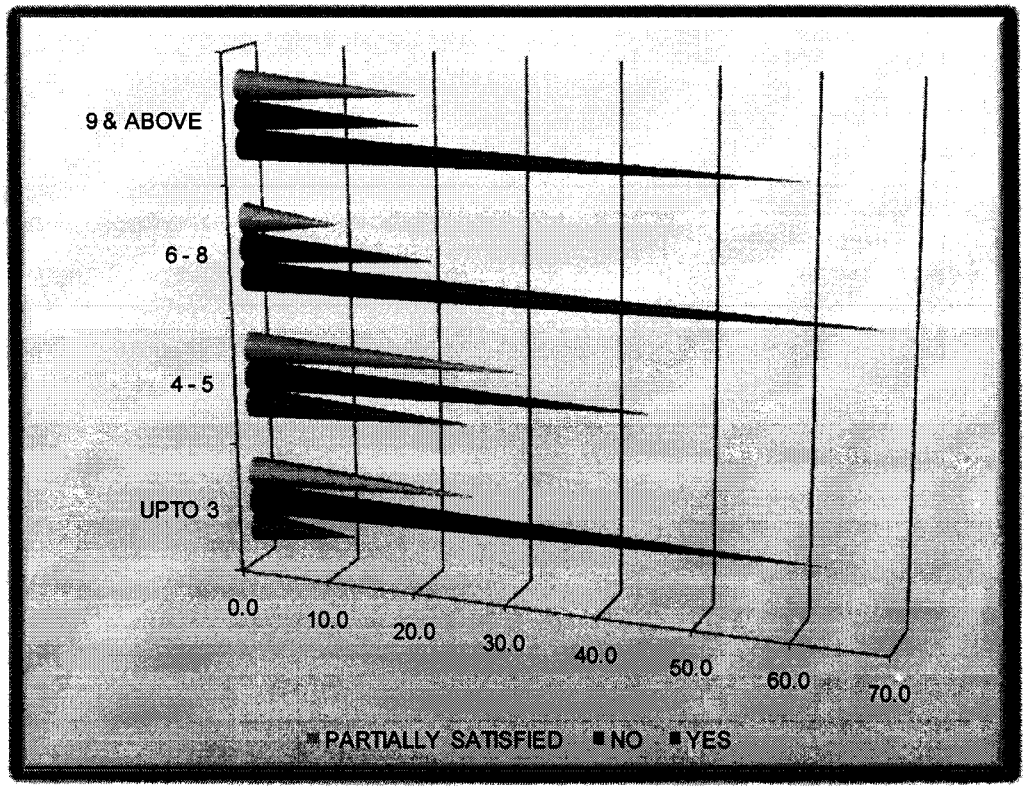


Figure 4.15. Occupancy Ratio and Quality of Water

4.6 OWNERSHIP STATUS:

According to 1998 census, there were 724 housing units in the G-8 squatter settlement. According to the information collected from the CDA "the up-gradation of

katchi abadis at site in the form of planned plots" recognized 557 eligible dwellers for the allotment of plots. Four hundred eligible dwellers have been allotted plots measuring 30x20 feet each while the remaining 175 dwellers will be allotted plots of the same dimension in the present location soon. Besides these two main categories, there is a sizeable majority of dwellers which has failed to get the official recognition for the status of their dwelling in G-8 squatter settlement necessary for the eligibility of a plot in the squatter settlement. These poverty stricken illegal occupants constitute a sizeable proportion of the squatter settlement. Their numerical strength demands the inclusion of their opinions and perceptions in future decision making regarding the environmental improvement of G-8 squatter settlement.

On the basis of ownership status, the dwellers are classified into three categories:-

1. Allotted occupants: Those who have obtained the possession of plots in the squatter settlement.
2. Registered occupants: Those who have been allotted numbers by the CDA for the allotment of plots in the coming days.
3. Illegal occupants: Their possession is considered unlawful and illegal.

At present, irrespective of the ownership status, the dwellers are a living reality of G-8 squatter settlement. It is also a fact that with the change of ownership status, the economic condition of a person also changes. The resultant economic change transforms the perception and action of a man regarding environment. It requires an in-depth analysis of linkages between poverty and environment based upon the ownership status for a systematic analysis of the prevailing realities in the study area.

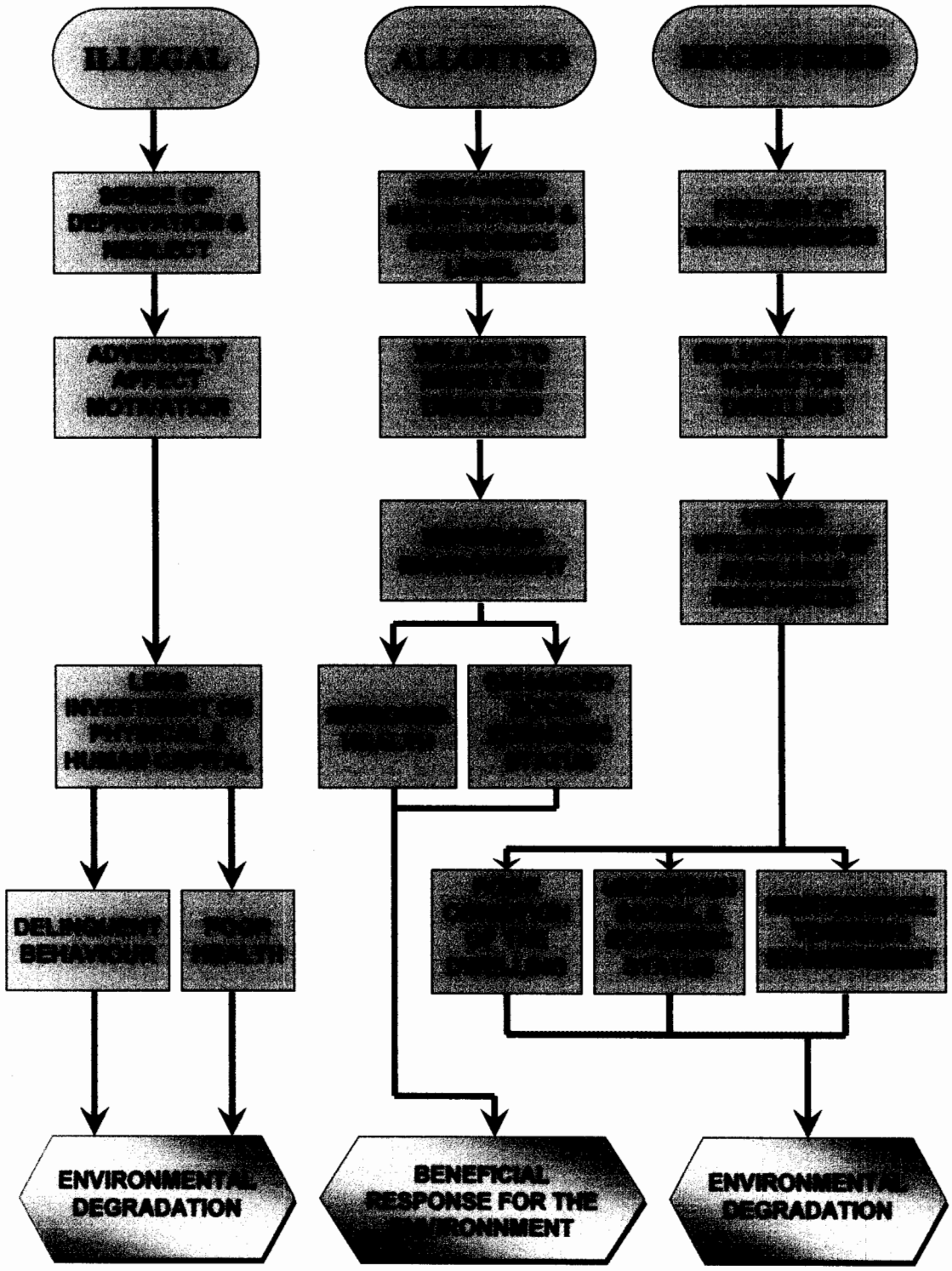


Figure 4.16. Relationship between ownership status and environment

4.6.1 Ownership status and importance of living in Katchi Abadi:

Table 3.2 in the preceding chapter reveals that irrespective of ownership status, the majority of respondents, Illegal 66.7%, Allotted 73.5% and Registered 88.5%, are residing here due to economic interests. Therefore, the birth and growth of G-8 squatter settlement is a direct outcome of economic benefits.

4.6.2 Ownership Status and Construction Material:

The findings of table 4.13 confirm that with the change of ownership status, the response towards building structure of the dwellers also changes. The poor dwellers are ready to invest their hard earned savings on the dwelling in the absence of a fear of dislocation from the area. These investments on houses not only improve the indoor living environment of the dwelling but also affect the external environment.

Table 4.14. Ownership Status and Construction Material Used

Categories	Wall				Outer Wall				
	Plastered Cement Blocks	Un Plastered Cement Blocks	Stone/ Mud/ Planks	Canister/ Cloths	Plastered Cement Blocks	Un Plastered Cement Blocks	Stone/ Mud/ Planks	Canister/ Cloths	No Outer Boundary
Upto 3	39.1	41.2	32.9	25.0	53.3	50.0	33.7	20.0	0.0
4 - 5	30.4	26.5	25.0	25.0	33.3	28.6	25.3	20.0	33.3
6 - 8	30.4	26.5	38.2	50.0	13.3	21.4	36.8	50.0	66.7
9 & Above	0.0	5.9	3.9	0.0	0.0	0.0	4.2	10.0	0.0

Categories	Floor				Floor			
	Bricks	Partly Plastered	Katcha (Mud/Sand)	Any Other	RCC	Tiles	Planks/ Mud	Any Other
Upto 3	42.9	37.9	30.6	100.0	55.6	40.0	32.1	40.0
4 - 5	40.0	20.7	22.2	0.0	22.2	40.0	26.6	20.0
6 - 8	14.3	34.5	44.4	0.0	22.2	20.0	36.7	40.0
9 & Above	2.9	6.9	2.8	0.0	0.0	0.0	4.6	0.0

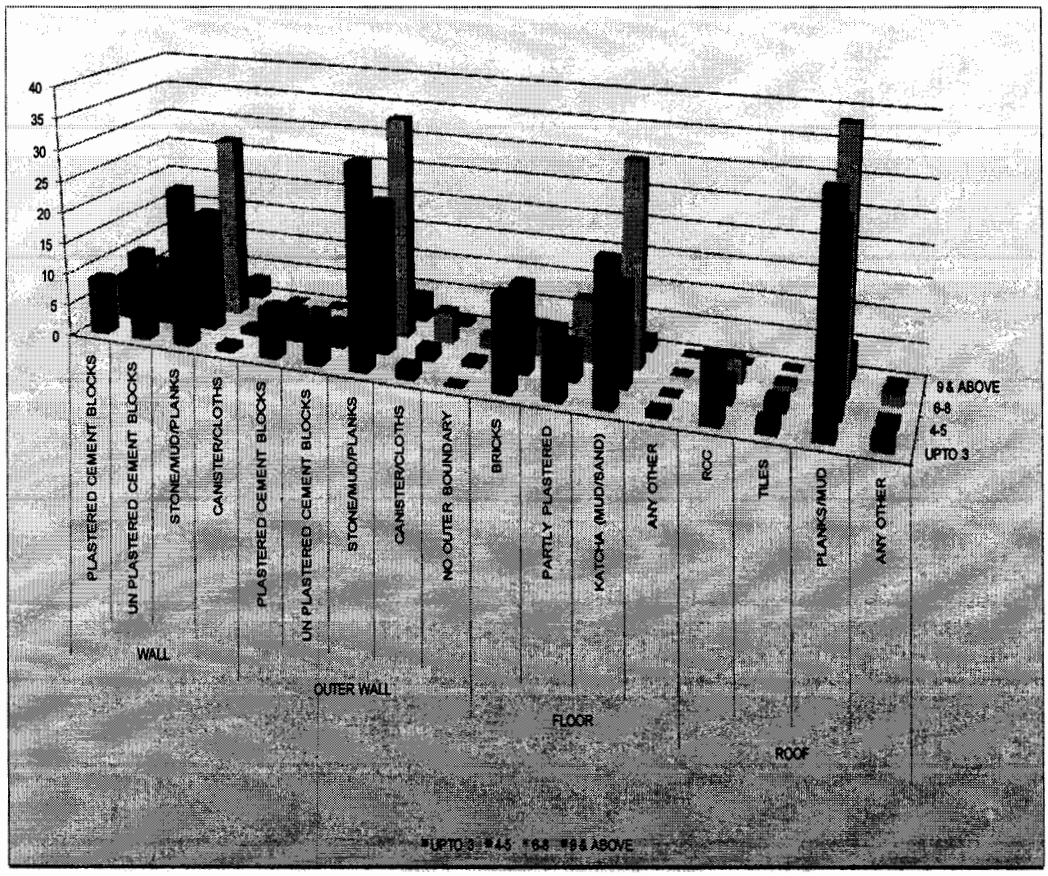


Figure 4.17. Ownership Status and Construction Material Used

4.6.3 OWNERSHIP STATUS AND CONSUMPTION OF FUEL:

The findings of table 4.13 exhibit that at present the majority of the respondents consume the wood to fulfill the demand. It is also confirmed that with the change of ownership status of the respondents, their tendency for the consumption towards the type of fuel for use also changes with the improved level of complacency regarding the future of their dwelling. Table 4.13 indicates that at present 54.3% respondents of allotted category rely on wood for the requirement of fuel while 91.4% of the respondents from illegal category and 85.7% respondents of registered category are relying on wood for the fuel requirement.

Table 4.15. Ownership Status and Consumption of Fuel

Income Range	Percentage of Households		
	Illegal	Allotted	Registered
Wood	91.4	54.3	85.7
Gas	1.4	17.1	2.9
Wood/Gas	5.7	22.9	5.7
Kerosene Oil	0.0	0.0	0.0
Not Mentioned	1.4	5.7	5.7

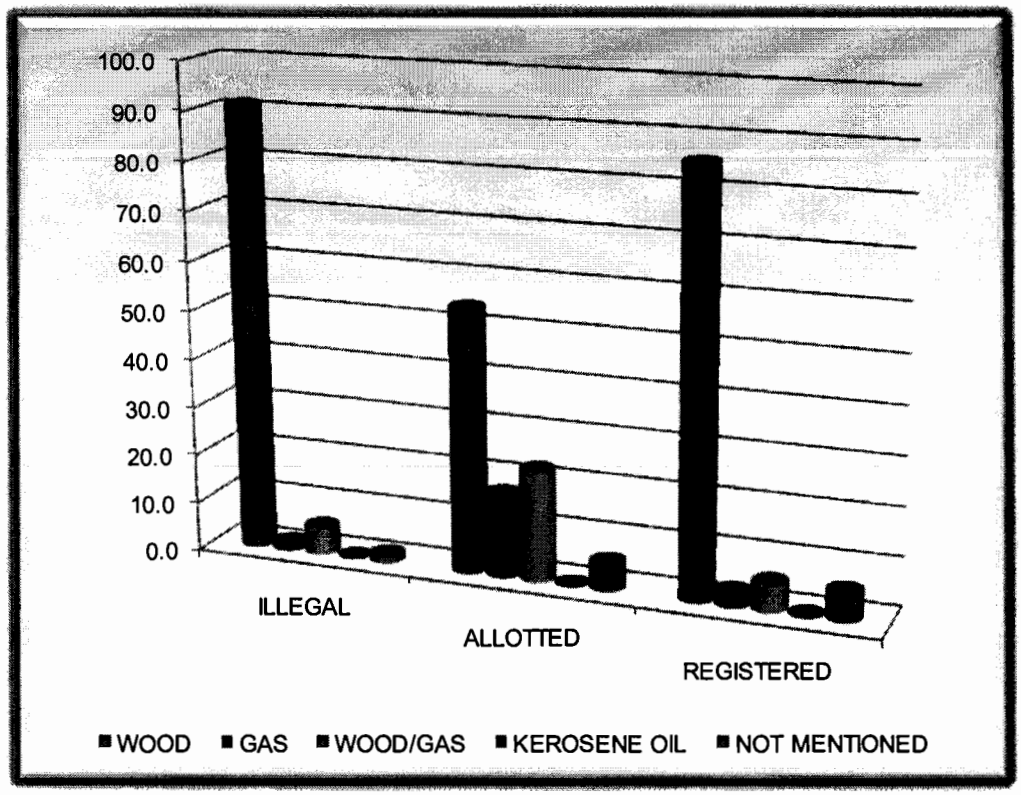


Figure 4.18. Ownership Status and Consumption of Fuel

4.6.4 OWNERSHIP STATUS AND MEDICAL FACILITIES:

The findings of table 4.14 show a dismal picture for the use of medical facilities by the respondents. It should be a matter of concern for the policy makers that if these squatter dwellers can not afford even for medical treatment how they can play their due role for the improvement of environment.

Table 4.16. Ownership Status and Medical Facilities

Reason	Percentage of Households		
	Illegal	Allotted	Registered
Lack of Knowledge	2.9	8.6	8.6
Lack of Finance	81.4	57.1	88.6
Any Other	2.9	22.9	0.0
No Answer	12.9	11.4	2.9

The comparison of the table indicates that the lack of financial resources prohibits more the Illegal 81.4% and Registered 88.6% from treatment during ailment. While in comparison to these two categories, the situation is somehow better for allotted 57.1% respondents due to their better financial condition.

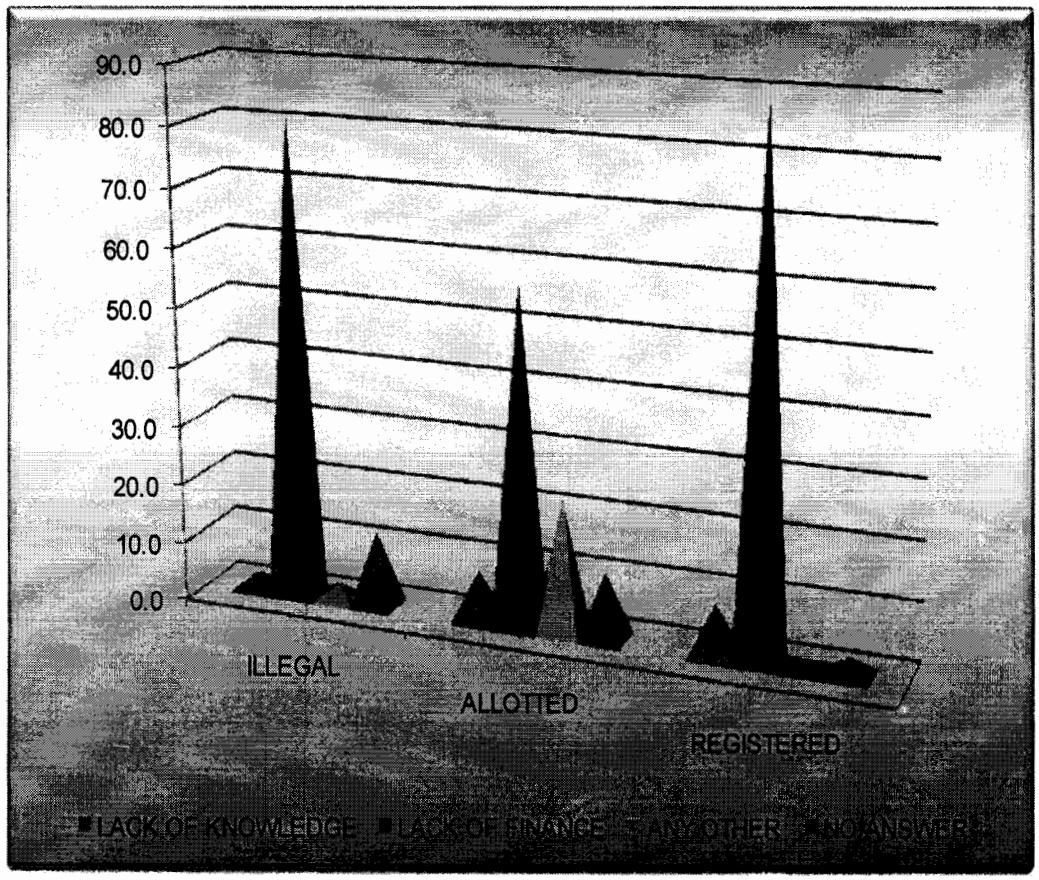


Figure 4.19. Ownership Status and Medical Facilities

4.6.5 OWNERSHIP STATUS AND NUMBER OF ROOMS:

The findings of table 4.15 reveal the following interesting aspects regarding the utilization of available space and its relationship with the ownership status.

Table 4.17: Ownership Status and Number of Rooms

No. of Rooms	Percentage of Households		
	Illegal	Allotted	Registered
No Room	1.4	5.7	0.0
One Room	68.6	37.1	34.3
Two Rooms	21.4	37.1	42.9
Three Rooms	5.7	5.7	17.1
Four Rooms	1.4	11.4	5.7
Five Rooms	1.4	2.9	0.0

In the absence of fear of eviction and dislocation, the dwellers are ready to invest on available land for its maximum utilization. It encourages the dwellers for vertical construction.

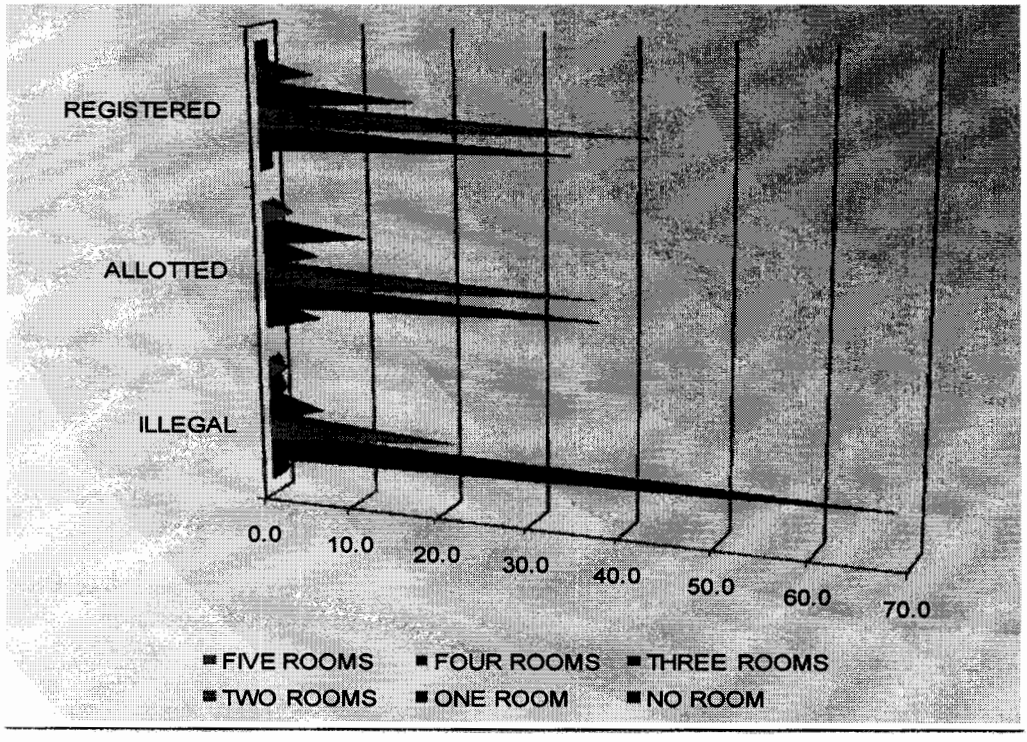


Figure 4.20. Ownership Status and Number of Rooms

The findings also suggest that the satisfaction, regarding the ownership status, stimulates the squatter dwellers for the availability of required civic and environmental provisions inside the dwelling.

It was observed, during the field survey, that the allotted respondents are constructing their dwellings by borrowed money but they are equally satisfied and contended with that.

4.6.6 OWNERSHIP STATUS AND PRIORITIES OF LIFE:

In view of the purpose and scope of the present study, a list of three priorities was prepared to know about the priorities of the respondents based upon their ownership status. The comparison of the findings in table 4.16 shows a difference of opinion regarding the priorities in life according to the ownership status. The table reveals that the majority of the illegal occupants are more interested in economic opportunities (71.4%) and in civic facilities (28.6%). The environment related considerations do not carry weight in their priority list.

Table 4.18. Ownership Status and Priorities in Life

Reason	Percentage of Households		
	Illegal	Allotted	Registered
Economic Opportunities	71.4	51.4	71.4
Civic Facilities	28.6	40.0	25.7
Environmental Consideration	0.0	8.6	2.9

As compared to that, the economic opportunities and acquisition of civic facilities are also important for allotted and registered occupants but a small section of 8.6% allotted occupants and 2.9% of registered occupants consider environmental considerations on the top of their priorities. It shows that the economic satisfaction and availability of civic amenities prompt the people to think about the surrounding environment.

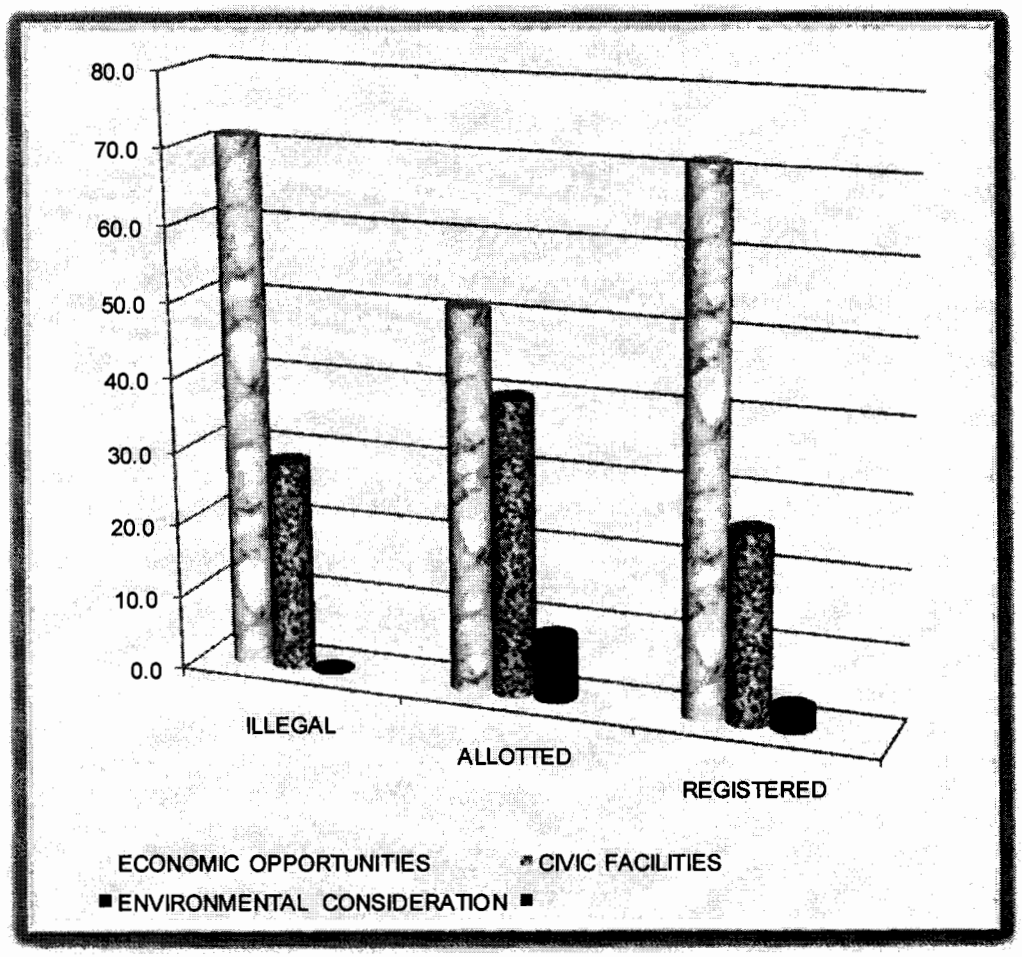


Figure 4.21. Ownership Status and Priorities in Life

4.6.7 OWNERSHIP STATUS AND QUALITY OF WATER:

The ownership status also influences the level of satisfaction regarding the quality of available facilities. The findings of the table 4.17 reveal that the socially and economically better respondents i.e. allotted and registered occupants of G-8 squatter settlement expect and stress for the betterment of quality and quantity of water in their vicinity. While the majority of 52.9% of illegal occupants of this slum area are fully or partially satisfied with the available quality of water without knowing the required standards for different usages.

Table 4.19. Ownership Status and Quality of Water

Options	Percentage of Households		
	Illegal	Allotted	Registered
Yes	22.9	5.7	5.7
No	47.1	82.9	74.3
Partially Satisfied	30.0	11.4	20.0

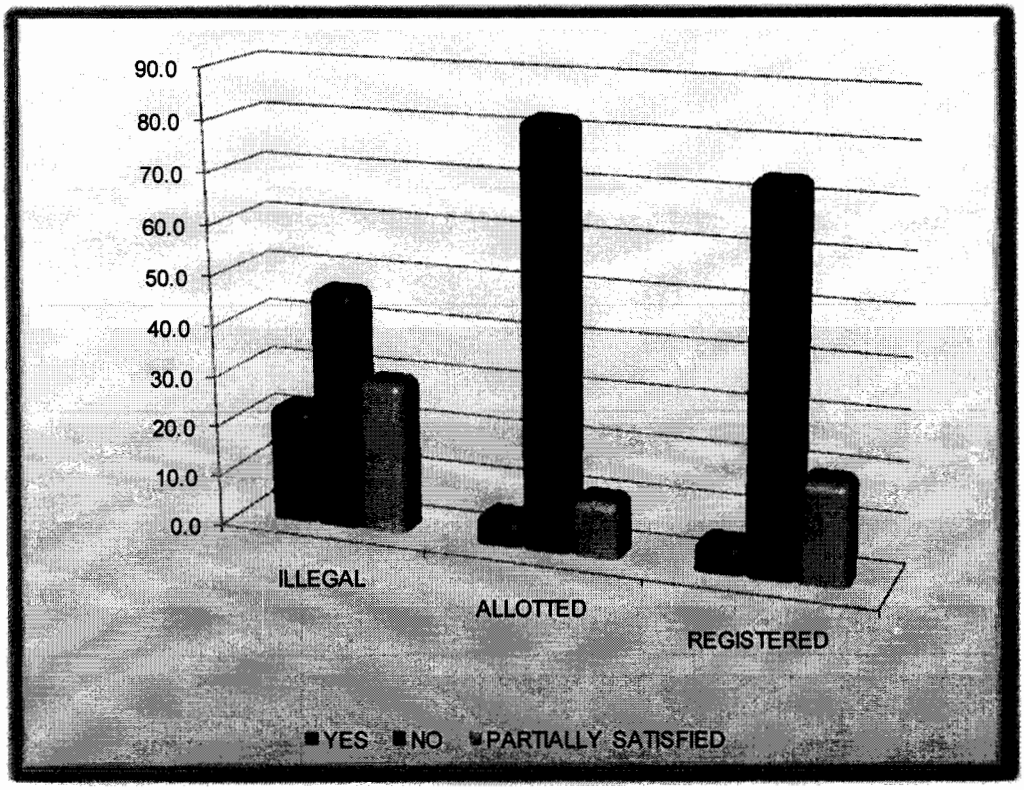


Figure 4.22. Ownership Status and Quality of Water

CHAPTER 5

CONCLUSION

The selection of Islamabad, the capital of Pakistan, was an administrative decision taken by the government of Pakistan. The accompanying economic opportunities associated with the birth of the new capital acted as a "Pull Factor" and the socio-economic hardships in rural areas and small urban centers as a "Push Factor" in large scale migration to Islamabad.

The financial constraints forced the unskilled and dispossessed migrants to look vacant state owned land within the municipal limits of Islamabad to meet their shelter requirements. Now, with the passage of time, due to the official negligence and other factors, these unplanned squatter settlements have enormously increased in number and size in the capital.

The current study was designed to understand the mechanism involved in the development of these squatter settlements in the capital and their resultant repercussions for the dwellers and the environment of Islamabad. For this purpose, a case study was carried out in G-8 squatter settlement to understand the intricate and inter-woven linkages between poverty and environment at micro level.

The findings of the study portray a gloomy picture of the dwellers and about their environmental conditions of the area. The findings of the case study have been summarized in a root-cause analysis chart.

Based on the analysis of the present study, following conclusions can be made regarding poverty environment nexus in squatter settlements in Islamabad:-

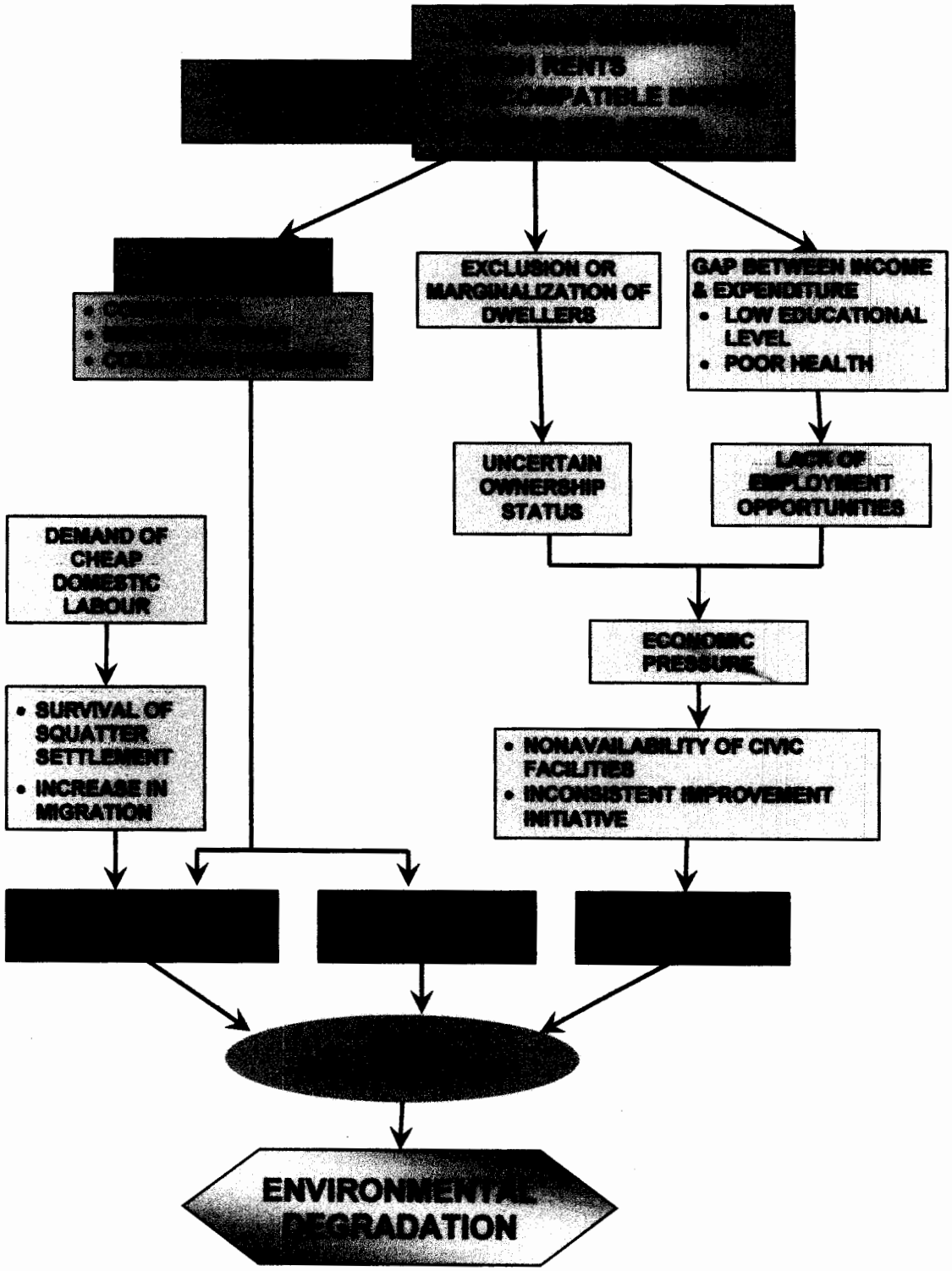


Figure 5.1. Root cause analysis: linkages between poverty and environment in squatter settlements

- At the national level, due to the imbalance in the level of regional and sectoral development, the high population growth rates and lack of economic opportunities in rural areas and small urban centers stimulate the disadvantaged people to leave their hearth and migrate towards big urban centers owing to the following factors:

- Due to lack of financial resources, these migrants are forced to drift towards squatter settlements in large urban centers for survival.

- In case of Islamabad, the rising inflation, incompatible income with expenditure and the shortage of required housing stock for the poor are mainly responsible for the emergence of this unintended and unnatural phenomenon of squatters and slum areas.

- Weak law enforcement by the administration as a result of corruption and political pressure are the principal causes for the growth and survival of these squatter settlements. In this regard, the invisible latent non-poor interference e.g. CDA support, and the demand for cheap domestic labour from these squatter settlements for surrounding areas acted as a catalyst for the survival of these squatter settlements.

- The consequent expansion in the volume of population and size of the squatter settlements is responsible for the environmental degradation due to unplanned pressure on existing infrastructure for the provisions of civic amenities.

- On the basis of the case study and subsequent analysis of the case study, it can be said that the laxity and further delay on the part of authorities for the economic

uplift of the poor will prove destructive for the natural and human environment of the capital.

- In this regard, the exclusion or marginalization of dwellers from the decision making process about their settlements will foil all attempts for the improvement of environmental conditions. They must be kept on board about the official initiatives for the improvement of their lives and surrounding environment.
- The findings of the research convey the message that the financial uplift of the squatter dwellers is a *sine qua non* for the physical and social environment. In this connection, the security of tenure (ownership rights), and capacity building through education skill development can be the options for the fulfillment of the objectives.
- The findings of the research convey the message that economic and financial uplift of the targeted segments are mandatory for the actualization of the programs for the improvements of the prevailing environment of the squatter settlements in Islamabad.
- The mitigation and reversal of current environmental degradation in Islamabad as a result of these squatter settlements demands a prompt response for the restoration of the environment.
- The shelter is the basic requirement of the man, in the face of acute poverty, the poor and disadvantaged section of the society is forced to look towards these squatter settlements at slum areas.

The economic poverty forces the poor to accept the unfriendly environment of these squatter settlements as a last resort for the survival in urban areas. The unhygienic

and socially unsupportive environment of these squatter settlements adversely affects their financial conditions. The vicious circle of cause and effect relationship between poverty and environment, in the context of squatter settlements, requires the immediate intervention of the government and private sector for the improvement of living conditions in these squatter settlements and their resultant outcomes in the form of environmental degradation for the surroundings.

BIBLIOGRAPHY

Bruce, Chadwick A., Howard M. Bahr and Stan L. Albrecht. *Social Science Research Methods.* National Book Foundation, Islamabad.

Capital Development Authority. *Cadastral Maps.* Capital Development Authority, Islamabad.

David Reed. *Escaping Poverty's Grasp – the Environmental Foundations of Poverty Reduction.* Earthscan Publishers, London, 2006.

Economic Adviser's Wing, Finance Division. *Pakistan Economic Survey 2004-05.* Finance Division, Government of Pakistan, Islamabad.

Economic Adviser's Wing, Finance Division. *Pakistan Economic Survey 2005-06.* Finance Division, Government of Pakistan, Islamabad.

Economic Adviser's Wing, Finance Division. *Pakistan Economic Survey 2006-07.* Finance Division, Government of Pakistan, Islamabad.

Haggett, Peter. *Geography A Modern Synthesis.* Harper & Row Publishers, New York, 1979.

Haque, Nadeem Ul and Durr-E-Nayab. *Cities - Engines of Growth.* Pakistan Institute of Development Economics, Islamabad, 2007.

Hardoy, E. Jeorge, Diana Mitlin and David Satterthwaite. *Environmental Problems in an Urbanizing World.* Earthscan Publications, London and Sterling, VA.

Hirsett, Wernez Z. *Urban Economic Analysis.* Tata McGraw Hill Publishing Company Ltd., New Delhi.

Hyde, Richard. *Cumulative Responsive Design.* Spon Press, Taylor Axis Group, London and New York.

Joseph, Kurian and R. Nagendran, *Essential of Environmental Studies.* Pearson Education Pvt. Limited, Singapore.

Khatoon, Rukhsana. *Urban Growth and Structure of Islamabad.* Rawalpindi, 1989.

Khawaja, Amjad Saeed. *The Ecology of Pakistan.* Ameena Saiyid. Oxford University Press, Karachi.

Kool, Maarten L., Dik Verboom and Jan J. van der Linden. *Squatter Settlements in Pakistan.* Vanguard Books Pvt. Ltd., Lahore, 1988.

Kureshy, K.U. *Geography of Pakistan.* National Book Service, Lahore.

Lashkar, M. I. *Slum – Dwellers of Islamabad In-depth Study on Urban Housing.* Research Syndicate, Rawalpindi, 1987.

Moerman, Joseph and Michael Ingram. *Ed The Population Problem.* Billing and Sons Ltd. Guildford and London.

Moser, C.A. and Bell Hyman. *Survey Methods in Social Investigations.* William Heinemann Ltd. Melbourne, London, Toronto.

Muhammad, Ckaudhry Sher and Dr.Shahid Kamal. *Introduction to Statistical Theory.* Ilmi Kutub Khana, Lahore.

Nelson, Sten. *The New Capital of India, Pakistan and Bangladesh.* Curson Press.

Northam, Ray, M. *Urban Geography, 2nd Edition.* John Wiley & Sons, New York, 1979.

Population Census Organization. *City Report – Islamabad.* Population Census Organization, Government of Pakistan, Islamabad, 2006.

Population Census Organization. *District Census Report, Islamabad, 1981.* Population Census Organization, Government of Pakistan, Islamabad.

Population Census Organization. *District Census Report, Islamabad, 1998.* Population Census Organization, Government of Pakistan, Islamabad.

Population Census Organization. *District Census Report, Rawalpindi, 1981.* Population Census Organization, Government of Pakistan, Islamabad.

Population Census Organization. *District Census Report, Rawalpindi, 1998.* Population Census Organization, Government of Pakistan, Islamabad.

Sang-e-Mile Publishers. *District Gazetteer of Rawalpindi District.* Sang-e-Mile Publishers, Lahore.

Smails, Arther E. *The Geography of Town.*

Survey of Pakistan. *Physiographic and Climatic Maps of Islamabad and Pakistan.* Survey of Pakistan, Rawalpindi.

Tehobanoglous, George, Hilary Theisen and Samuel Vigil. *Integrated Solid Waste Management.* McGraw-Hill Inc. Hightstown, NJ.

The World Bank. *Poverty and the Environment – Understanding Linkages at the Household Level.* Washington DC, 2008.

Todaro, Michael P. and Stephen C. Smith. *Economic Development, Eighth edition.*

Tolley, R.S. and B.J. Turton. *Transport Systems, Policy and Planning, A Geographical Approach.* Premier Printers, Islamabad.

United Nations Department of Economics and Social Affairs. *Statistical Year Book – Forty Eight Issues.* Department of Economics and Social Affairs, Statistical Division, United Nations, New York, 2004.

United Nations Population Fund. *State of World Population 2007 – Unleashing the Potential of Urban Growth.* New York, 2007.

Zaidi, Akbar. *Issues in Pakistan's Economy 2nd Edition.* Oxford University Press, Karachi, 2005.

QUESTIONNAIRE

LINKAGES BETWEEN POVERTY AND ENVIRONMENT

A CASE STUDY OF SQUATTER SETTLEMENTS IN ISLAMABAD

BY SYED ATIF BOKHARI MS (ES)

SUPERVISED BY DR. RASHID SAEED

QUESTIONNAIRE NO:_____

HEAD OF HOUSEHOLD:_____

NAME OF LOCALITY:_____

NAME OF SECTOR:_____

1. **WHEN DID YOU START LIVING IN THIS HOUSE?**

   _____

2. WHY ARE YOU LIVING IN ISLAMABAD:

	ECONOMIC OPPORTUNITIES
	CLEAN ENVIRONMENT
	BETTER CIVIC FACILITIES
	ANY OTHER

3. **ARE YOU SATISFIED WITH THE PROVISION OF CIVIC FACILITY IN YOUR AREA:**

	YES
	NO
	PARTIALLY SATISFIED

4. **WHY DID YOU MOVE TO THIS LOCALITY:**

5. **WHAT ARE THE ADVANTAGES OF LIVING HERE:**

	EASILY ACCESSIBLE TO WORK PLACE
	LIVING EXPENDITURES ARE SMALL
	ACQUAINTANCES LIVE IN THE VICINITY
	ANY OTHER

6. **IF GOVT. PROVIDES YOU ALTERNATIVE PLACE, ARE YOU READY TO SHIFT THERE?**

	YES
	NO
	DEPENDS UPON

7. A. HOW MANY ROOMS ARE THERE ON IN THE HOUSE?_____
   B. HOW MANY HOUSEHOLDS LIVE ON PLOT (TOTAL)?_____
   C. HOW MANY ROOMS DOES YOUR HOUSEHOLD USE?_____
   D. HOW MANY STOREYS THE HOUSE HAVE?_____
   E. WHAT THE OTHER ROOMS ARE USED FOR?

	FOR OTHER HOUSEHOLDS; SPECIFY
	VACANT
	USED FOR SHOP
	USED FOR WORKING PURPOSES
	STORE
	OTHERS

8. **WHAT IS THE OCCUPANCY:**

	OWNER: WHEN DID YOU GET THE OWNERSHIP RIGHTS
	TENANT: WHAT IS THE RENT
	LIVES FREE ON THE CDA VACANT AREA

9. **MODIFICATION IN PLOT**

	DID YOU SLIT YOUR PLOT DURING LAST TWO YEARS
	DID YOU EXTEND YOUR PLOT DURING LAST TWO YEAR
	DID YOU CHANGE THE BOUNDARY DURING LAST TWO YEARS
	NOT ANY CHANGE

10. ***BUILDING MATERIAL***
    WALLS

	COMPOUND WALL		***HOUSE WALL***
	PLASTERED CEMENT BLOCKS		PLASTERED CEMENT BLOCKS
	UN PLASTERED CEMENT BLOCKS		UN PLASTERED CEMENT BLOCKS
	STONE/MUD/PLANKS/		STONE/MUD/PLANKS/
	CANISTER/CLOTHS		CANISTER/CLOTHS
	ROOFS		***FLOOR COMPOUND***
	RCC		BRICKS
	TILES		PARTLY PLASTERED
	PLANKS/MUD		KATCHA (MUD/SAND)
	ANY OTHER		

24. HOUSEHOLD PROFILE

S.	NAME	AGE	EDUCATIONAL ATAINMENT	OCCUP.	INCOME
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

EXPLANATION:

W: WORKING S: STUDENT
O: WEDGES
R: RETIRED S: SELF-EMPLOYED
U: UNEMPLOYED
C: YOUNG CHILD

11. WHAT ARE THE FACILITIES:

WATER SUPPLY

	PIPED WATER SUPPLY AT PREMISES
	PUBLIC PIPED WATER SUPPLY
	COMMUNITY TANK
	CDA TANKER
	BORE HOLE
	ANY OTHER

12. WHAT DO YOU KNOW ABOUT THE ADVANTAGES OF CLEAN DRINKING WATER:

_____
_____
_____

13. ARE YOU SATISFIED WITH THE QUALITY OF WATER AVAILABLE TO YOU

YES	NO	PARTIALLY SATIFIED

14. ARE YOU SATISFIED WITH THE QUANTITY OF WATER AVAILABLE TO YOU

YES	NO	PARTIALLY SATIFIED

15. ARE YOU AWARE ABOUT THE ADVANTAGES OF FILTER WATER:

YES	NO	DON'T KNOW

16. DO YOU HAVE AN ACCESS TO WATER FILTRATION PLANT:

YES	NO

17. IF NO THEN WHY?

	LACK OF TIME
	LACK OF INTEREST
	DIFFICULT TO FETCH
	ANY OTHER

18.TOILET S

	BUCKET LATRINE
	SEPTIC TANK
	SEWERAGE LINE
	PUBLIC TOILET
	NO FACILITY

19. SEWERAGES

a. DO YOU HAVE SEWERAGE SYSTEM:

YES	NO

b. WHY DO YOU CONSIDER THE SEWERAGE SYSTEM NECESSARY

	IT REDUCES THE CHANCES OF DISEASES
	IT PROMOTES CLEANLINESS
	IT FACILITATES THE LIFE
	ANY OTHER

c. ARE YOU READY TO PAY FOR SEWERAGE FACILITIES:

YES	NO

d. WHAT TYPE OF FUEL YOU CONSUME:

COOKING	
HEATING	
WASHING	

20. ELECTRICITY

a. DO YOU HAVE THE FACILITY OF ELECTRICITY:

YES	NO

21. DO YOU HAVE THE SUI GAS CONNECTION

YES	NO	APPLIED FOR

22. HAVE THERE BEEN ANY CHILDREN DIED UNDER THE AGE OF 2 DURING LAST TWO YEARS:

	YES, TOTAL NUMBER_____
	NO

23. WHAT WAS THE CAUSE OF DEATH:

	CHOLERA
	TYPHOID
	HEPATITIS
	DYSENTERY
	MALARIA
	ANY OTHER

24. WHOM DO YOU CONSULT DURING THE AILMENT:

	GOVT. HOSPITAL
	PRIVATE CLINIC
	HOMEOPATH
	HAKIM
	CURE AT HOME
	DID NOT CONSULT

25. IF YOU DO NOT CONSULT WHAT IS THE REASON:

	LACK OF KNOWLEDGE
	LACK OF FINANCE
	ANY OTHER

26. HOW MUCH EXPENSES ARE REQUIRED FOR YOU MINIMAL SATISFACTION IN A MONTH

	UPTO RS. 8,000
	RS. 8,001 TO RS.10,000
	RS. 10,001 TO RS.14,000
	RS. 14,001TO RS.16,000
	RS. 16,001 TO RS.20,000
	ABOVE RS. 20,001

27. ARE YOU ABLE TO MEET THESE EXPENSES

	YES
	NO
	DON'T KNOW

28. WHAT IS THE CAUSE OF YOUR UNEMPLOYMENT:

	LACK OF ABSOLUTE OPPORTUNITY
	LACK OF EDUCATION
	SEARCHING FOR A BETTER JOB
	LACK OF REQUIRED SKILLS
	ANY OTHERS

29. WHAT IS MORE IMPORTANT FOR YOU:

	ECONOMIC OPPORTUNITIES
	ENVIRONMENTAL CONSENDRATION
	CIVIC FACILITIES
	ALL OF THE ABOVE

30. WHAT ROLE CAN YOU PLAY TO IMPROVE YOU SORROUNDIG

_____

_____

_____

31. WHY YOU WANT TO IMPROVE YOUR ENVIRONMENT
"SOURCE OF MOTIVATION":

	RELIGIOUS
	MORAL
	NATIONAL
	ANY OTHER

32. IN YOUR OPENION, WHO IS POLLUTING MORE, THE SURROUNDINGS ENVIRONMENT:

	RICH PEOPLE
	SQUATTER DWELLER
	TRAFFIC CONGESTION
	LAKE OF PLANNING BY AUTHORITIES
	INDUSTRY
	ALL OF THE ABOVE
	ANY OTHER

33. DO YOU HAVE AN ACCESS TO:

	TELEPHONE
	INTERNET
	CABLE
	RADIO
	NEWS PAPER
	ALL OF THE ABOVE

34. IF NOT, THEN WHAT IS THE REASON:

_____

35. **DO YOU THINK THE OPEN DRAIN IS CREATING HEALTH PROBLEM FOR YOU .**

	YES
	NO

36. **HOW CAN WE OVERCOME ON THIS PROBLEM.**

---

37. **WHERE DO YOU THROW YOUR HOUSEHOLD WASTE**

	IN STREETS
	CDA COLLECTION POINT
	OPEN SPACE
	ANY OTHER

38. **WHO DISPOSE OFF THIS WASTE?**

	CDA
	LOCAL ARRANGEMNENT
	NO DISPOSAL
	ANY OTHER

39. **ARE YOU SATISFIED WITH THERE WORKING OF CDA?**

	YES
	NO

40. **HOW WE CAN IMPROVE THIS SITUATION:**
