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INCOME – HOUSING – OCCUPATION LINKAGES

A CASE STUDY OF CONSTRUCTION WORKERS

(Bangalore City, India)

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1.0 Introduction

Bangalore has emerged as a major metropolis born in and belonging to the modern industrial era. The city's growth has been so rapid that in the decade 1971-81 Bangalore recorded a population increase of 61.74 per cent. In the 1981 Census, Bangalore stood fifth in functional ranking among various cities in India. It has firms using modern industrial technology characterised by high capital intensity as well as sophisticated production capability. Today, the city has a structure and form which is unique in many respects.

Until 1941, Bangalore was a small, urban area with a population of 407,000 persons which increased to 1,422,000 persons in 1971 and jumped to 2,300,000 persons in 1981. In the industrial boom that covered the forty year period (1941-81), the city experienced phenomenal growth pattern. (Refer Plate No. 3).

The city's population growth was largely attributed to "push" factor of depleting rural incomes rather than the "pull" factor of assured urban employment. The disturbing aspect is that the city is not generating jobs fast enough to keep pace with the inflow of migrants, as is evident from increasing unemployment, low per capita incomes and sizeable segments of population categorised as urban poor, which are at the core of urban maladies.

PAKISTAN

TIBET

DELHI

CALCUTTA

INDIA

BURMA

BOMBAY

KARNATAKA
STATE

MADRAS

srilanka

MAP OF INDIA

BANGALORE

MAP OF KARNATAKA STATE

MAP OF BANGALORE CITY

CORRIDORS OF GROWTH

Status and demographic pattern of
of Bangalore city between 1901
and 2001

Year	Status	Area in sq.miles	Population ('000s)	% change in pop- lation	Occupation density/ acre**
1901	City + Cantt.	20.70	159	--	12.00
1941	City + Cantt.	24.40	467	155.97	26.00
1951	Corporation area	46.00	779	91.40	26.46
1961	Corporation area	46.00	906	16.30	30.77
1971	Corporation area	60.00	1,422	56.95	37.03
1981	Metropolitan area	102.00	2,300	61.74	35.2
2001*	Metropolitan area	102.00	3,800	65.28	47.88

Cantt. means Cantonment area (including defence areas)
* Projected area
** 1 acre = 0.40 ha.
*** 1 sq.mile = 2.59 km.
Source : Emerging Metropolis : Bangalore., ISEC as quoted in
Krishnamurthy and Shivakumar (1983).

Job creation at an accelerated pace therefore, emerges as the key issue in planning for India's urbanisation if the full benefit from the process itself is to be realised in the larger context of national economic and social development. Creation of jobs in the formal sector is difficult. Hence, the emergence of "informal sector" in the urban areas!

The "informal" sector includes a wide range of activities, from household to personal services, and from commercial to non-commercial services, involving firms, households and individuals. Two important features to be noted here are: first, it is made up of activities to which government pays little, if any, attention. Second, and possibly more importantly, although people who study economic activities in urban areas till recently did not consider these activities as an integral part of the city. Indeed, many case studies have established the significant place of the informal sector in the maintenance of the city as a socio-economic system (Sethuraman, 1981). Most of the people involved in informal sector activities are rural migrants. Most of these migrants are handicapped in terms of skills and education. This is where the informal sector is instrumental in defusing the buildup of frustration among these categories of people, by providing a source of transitional employment. This informal sector, therefore, helps to absorb fresh migrants, by cushioning their economic plight.

2.0 Statement of the Problem

The relationship between industrial transformation and the living standards of the working class in the urban areas has interested many researchers. Until recently, this interest had remained largely confined to the experience of workers in advanced countries (Taylor, 1977). In recent years, however, attention is focused on the developing countries, particularly those that have been experiencing rapid industrial growth (Weeks J, 1985; Wells J, 1983).

Among the urban poor the concept of shelter has several dimensions. For some it is a vital factor of production in their economic pursuits; while for some others it is merely a barricade for privacy in a highly congested urban environment. There is also another category of urban poor who live and earn their living with no form of shelter whatsoever (Jagannathan and Halder, 1988).

So far the focus of housing studies were on "income of the household". Given the magnitude of income variations among the poor households, it is now evident that income cannot be the sole basis for housing policies. Hence the introduction of a new concept attempting to assess the relationship between occupation and housing needs.

Occupation is a differential parameter between households, and character of housing which is determined by household occupation. This occupation-housing linkage has not been studied so far.

3.0 Construction Workers : An Overview

The construction industry occupies an important place in any country's economy. It provides an appreciable share of the GDP and generates a high proportion of Gross Fixed Capital Formation. The construction industry has always been viewed as one which government can use as a form of economic regulator. This is particularly so in relation to employment. Given that the industry, by its nature, requires a large casual labour force, it is clear that investments in construction can be used to create short term and often seasonal employment. Moreover, employment in this sector is considered to be transitory.

Thus, this industry mostly recruits "casual labourers" who are locally recruited for the completion of the construction works. Their wages are calculated on a daily basis ie. they are paid only for the days on which they actually work. They enjoy no social security or benefits and can be laid off when their services are no longer required and this is understood in terms of local conventions.

A recent study of the National Buildings Organisation (1987) indicates that 80 per cent of the labour force involved in the construction industry consists of "wage or casual labourers". This means that the major economic contributor is sustained by casual labourers whose income and social securities are unstable. Further, the recent studies indicate that there is no "transitory" phase in the informal sector activities, especially in the construction works. Most of the informal sector activities are now need not be transitional. (Harold Lubell, 1977).
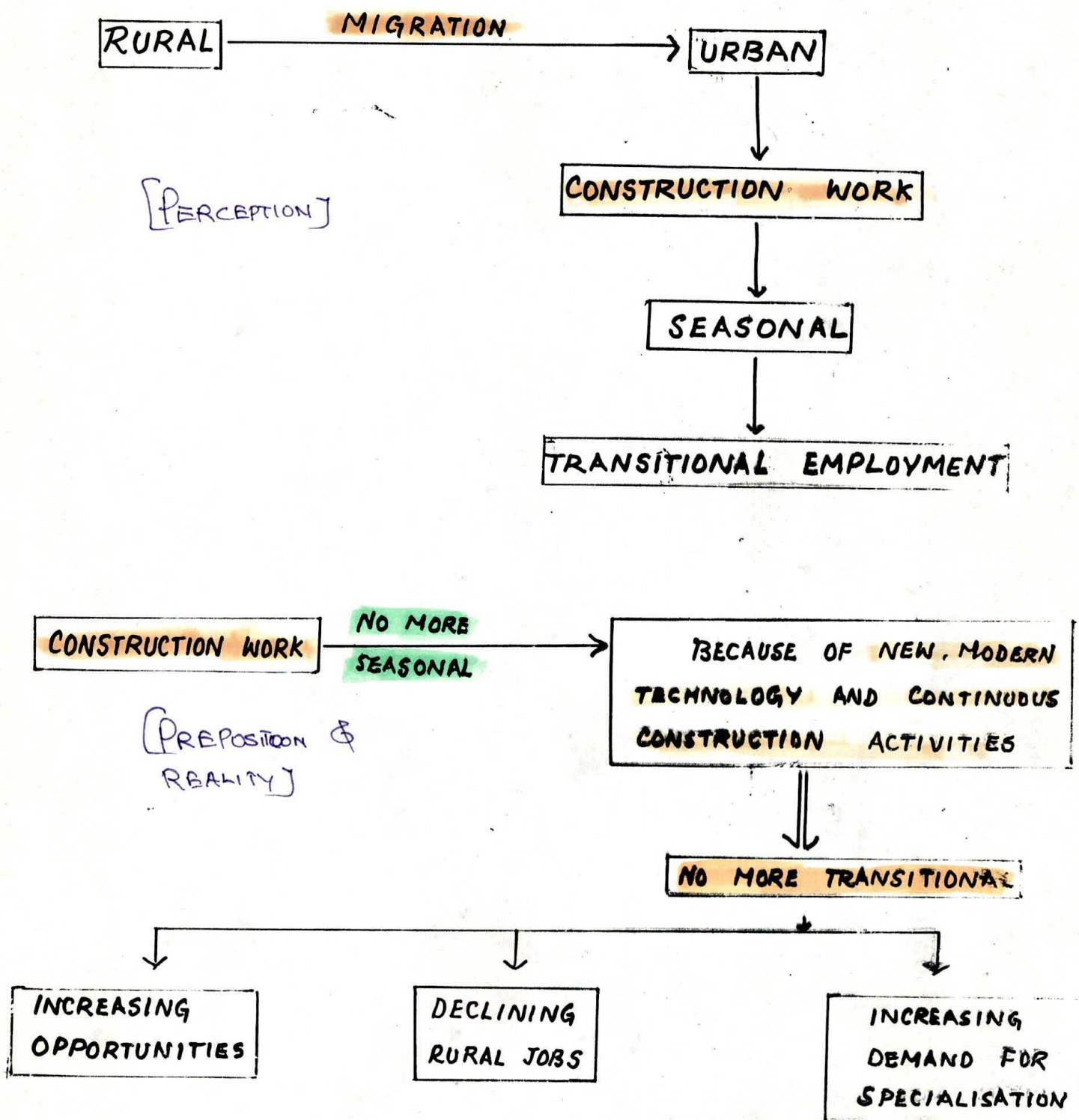
3.1 Housing : Characteristics

Housing has a crucial role in any strategy of economic and social well-being. Adequate shelter is one of the basic needs. The construction of housing has a major priority in any nation's allocation of resources and constitutes an important source of employment opportunities. But to build conventional house is expensive, invariably costing many times a worker's annual earnings. Thus, the poor rarely have adequate "access" to housing and what housing services they do enjoy are of low quality. In addition, despite the strenuous nature of their work, construction workers are among the lowest paid, in the developing countries. Thus, the construction workers who constitute the large labour force in the construction industry usually do not own a "decent" shelter of their own.

3.2 Labour Migration in India

The empirical literature on internal migration has typically found that propensity to migrate decreases with age and with distance between points of origin and destination, and increases with education or skill. Distance is assumed to serve as a proxy for both the psychic costs of movement and the availability of information. Also, migration studies find income at the point of origin to be negatively related to the propensity to migrate and income at the point of destination is positively related.

RURAL·URBAN CONTINUUM

RURAL ──── MIGRATION ────→ URBAN

[PERCEPTION]

URBAN ↓

CONSTRUCTION WORK

↓

SEASONAL

↓

TRANSITIONAL EMPLOYMENT

CONSTRUCTION WORK ── NO MORE SEASONAL ──→ BECAUSE OF NEW. MODERN TECHNOLOGY AND CONTINUOUS CONSTRUCTION ACTIVITIES

[PREPOSITION & REALITY]

↓↓

NO MORE TRANSITIONAL

INCREASING OPPORTUNITIES

DECLINING RURAL JOBS

INCREASING DEMAND FOR SPECIALISATION

DIMENSIONS OF HOUSING DEPRIVATION

1. Substandard structures, materials & services
2. Insufficient Floor Area
3. Unsatisfactory Neighbourhood Environment
4. Excessive Housing Expense Relative to Income
5. Lack of choice of Tenure
6. Social Discrimination in Ownership. Rental,
7. Inadequate Furnishings
8. Restricted Locational Choice
9. Excessive Housing Expenditure Relative to Quality and Size of Dwelling
10. Lack of Security of Occupancy
11. Stigmatizing way in which Housing Services are Delivered
12. Housing related Problems of Health. Education, ...

Scott (1970) has reviewed the literature and cites four major reasons for migration for highly-skilled labourers : income differentials; professional opportunities; living conditions and working conditions. The labour migration studies in India confirm these reasons. (Jetley, 1987; Gill, 1984).

3.3 Theories on Housing Expenditures

The relationship between housing expenditures and income was first analysed by Ernst Engel (1895). He is reputed to have formulated three "laws". Engel's first law said that food expenditures rise with income, but at a slower rate. The second law stated that clothing expenditures rise continuously at the same rate as income. The third law stated that housing expenditures remained constant, regardless of income. Only the first has stood the test of time. Housing expenditure law was remodified by Schwabe as `housing expenditures rise with income but at a slower rate (Stigler, 1954).

Cross-sectional research has shown that the relationship between income and housing expenditures varies greatly. Factors influencing such relationship include regional markets, movements in housing, movements in housing prices, family size, and education of the head of household (Rapkin, 1957; Reid, 1962; Roistacher, 1974). Cross-sectional research was not particularly useful for analysing some important relations between housing expenditures and income. In particular, cross-sectional data are inappropriate because changes in housing expenditures are

hypothesised to result from changes in income. Because the responses to changes in income tend to be delayed by some families and anticipated by others, cross-sectional data can be very misleading. Factors associated with the timing of increases in income and housing expenditures cannot be captured in cross-sectional analysis. Longitudinal data are required to relate the changes to one another. Longitudinal studies are rarely undertaken. Moreover, there are enormous technical problems in gathering and analysing longitudinal data.

Roistacher (1974) found that the expenditures on housing of house owners were above those of renters in every income class and by a substantial margin. He provided three explanations for this viz., (i) a portion of house owners' expenditures represent investment; appreciating value of the unit was also borne in mind while expending; (ii) owner-occupied dwellings may be of higher quality than renter-occupied dwellings; and (iii) people may be willing to pay more for a dwelling they own than they are for a rented dwelling of otherwise similar quality.

Viewed in this context, the last explanation seems to be most probable in case of households deriving income from informal sector activities. Most urban poor households do not seek ownership because they expect it to be profitable. Rather, they seek it for its own sake (Bapat, 1987).

Traditionally, affordability of the lower-income households for housing have been stated to be "low". This rudimentary

HOUSING HISTORY OF MIGRANT WORKERS

* Staying with Employer

* Staying in a place indicated by Employer

* Staying with Friends/Relatives

Streets/Bus Stands, ...
.... Especially Children
and Youth below 20 Years

HOUSING DELIVERY SYSTEM OF CONSTRUCTION WORKERS

* Construction Site Sheds

* Converted Houses

* Squatting

* Illegal Sub-Division and Building

HOUSING : MOBILITY/DECISION MATRIX

	HOUSING SITUATION SATISFACTORY	HOUSING SITUATION UNSATISFACTORY
	NO PRESSURE TO MOVE	PRESSURE TO MOVE
LABOUR/INCOME SITUATION SATISFACTORY	LOW POSSIBILITY OF DWELLING CHANGE	HIGH PROBABILITY OF DWELLING CHANGE WITHIN LABOUR MARKET AREA; LOW PROBABILITY FOR OTHER AREAS
	MODERATE PRESSURE TO MOVE	PRESSURE TO MOVE
LABOUR/INCOME SITUATION UNSATISFACTORY	LOW POSSIBILITY OF DWELLING CHANGE WITHIN LABOUR MARKET AREA	HIGH PROBABILITY OF DWELLING CHANGE WITHIN LABOUR MARKET AREA AND OTHER AREAS

classification does not offer an adequate basis for developing strategies for improving the low-income settlements. Further, poor households are classified as a homogeneous category and policies and programmes are formulated.

With the emerging discussions on the various dimensions of poverty in the developing countries, it is necessary to modify and develop a framework that would allow the characteristics of differential residential situations to be dealt with while also permitting a general, cross-sectoral analysis of appropriate housing strategies. For this purpose, neither the more general level of analysis which ignores differences between various categories of poor households, nor the detailed level which addresses the particular circumstances of each area, provides an adequate basis for a comprehensive discussion on the housing affordability issue. An intermediate level of analysis is required, which would be based on the most significant characteristics of individual employment-sectors but still lead us to broader conclusions on the income-housing linkages among the lower-income households.

4.0 Rationale for the Study

The housing situation in Bangalore City is gradually deteriorating and is heading towards a critical condition. The urban poor in the city are generally priced out in the market system and the response of the Government is not encouraging. However, the poor households have found shelter for themselves

using many informal strategies. This section of the population is also willing to pay for the shelter; the problem arises with respect to the ability and willingness to pay for its use. Thus, supply-side factors become important for analysis which is crucial for an element like housing.

5.0 Objectives of the Study

5.1 General Objective

To study and understand the present status of the construction workers in Bangalore city, in terms of their housing conditions.

5.2 Specific Objectives

a. To identify the strategies adopted by construction workers to get access to a dwelling unit;

b. To estimate the amount of money allocated by the household for housing expenditures and to study the determinants for the allocation;

c. To simultaneously identify the ability and willingness to pay for housing;

d. To trace and link occupational pattern to housing needs and affordability.

6.0 Tentative Propositions

This study would focus on the extent to which following factors are linked to Construction Workers housing (i) choice; (ii) need; (iii) affordability to ::

> Duration of Stay
>
> Linkages with Place of Origin
>
> Changes in Income Earned

6.1 Assumptions

a. Housing Decisions are determined by spatio-socio-economic changes ie. location, household size, level of skill, type of employment, duration of stay and income.

b. Households lay equal emphasis on both qualitative (non-financial) and financial objectives of their decision-making Thus, financial factors are not the only factors that motivate housing choice.

c. Construction Workers make rational decisions regarding housing.

7.0 Need for focusing on Construction Workers

a. Construction Workers are generally first-generation migrants to the city.

b. A major constituent of the informal sector population in the urban areas.

c. Skill and ability to involve in self-help housing schemes.

d. This is also an indicator of rural-urban relations and provides evidence on rural-urban continuum.

e.   This group is also representative of poor households.

The study will <u>focus</u> on the target groups' :

i.   behaviour and attitude towards housing choice, location etc;

ii.   factors leading to uncertainty and final decisions regarding housing.

iii. ∈ is income a crucial factor in housing related decisions?

8.0   <u>Scope of the Study</u>

Spatially, this study covers one city in India. Thus, the study is area-specific and occupation-specific. As for the time horizon, the current wage rates and income levels are to be considered. The preference coverage of this study aims to link rural-urban relations, choice of location, type of tenure which are directly related to housing-choice-decisions. These, parameters and variables also determine social-structural factors affecting housing choice.

The focus on housing expenditures of the household and locational choices is intended to reflect comparative responses of households on financial and other qualitative aspects of housing.

```
Independent/Self-employment            )
Participation in Community Activities   )  Qualitative Aspects
Urbane Ways of Living                   )
Education of Children                   )


Income Sources (Assured/Unassured)    )
Risks undertaken (occupation,          )
investments, housing)                  )
Diversifying Occupational range        )  Quantitative Aspects
Innovative Actions                     )
Residential Preferences                )
```

An "Observation Sheet" would supplement the information collected through the interview schedule. This sheet is to be completed by the investigator.

8.1   Limitations of the Study

Given the magnitude of the problem and complexity of the issues involved it would be difficult to cover all the aspects emerging out of the situation. Following critical limitations of the study are to be borne in mind :

a. Limited availability of time and resources.

b. This study is proposed to be micro-level, area-specific and occupation-specific. Hence it need not be representative of other areas and occupations existing under different conditions.

c. Income earning opportunities vary and this variation is may not be reflected in the quantitative analysis of the study.

d. There is lack of time-series data.

9.0 Proposed Methodology

9.1   The proposed tools for data collection are :

      i.   Interview Schedule

      ii. Discussions with builders, contractors and formal/informal developers.

     iii. Discussion with officials.

      iv. Published Sources.

9.2 Universe and Sample

Karnataka Construction Workers Union is an apex body of construction workers in the State of Karnataka focusing on the issues concerning this occupational-group. This union has a register of the present residential locations of the construction workers. This will serve as the Universe of the study. For the purposes of this study, a ward from the City will be randomly picked and a sample from the members under that ward would be randomly drawn. The size of the sample in each ward will be proportional to number of construction workers living in that ward. To complete a sample, a minimum number of respondents would be fixed spread over a specific number of wards in the city. In order to cover dropouts, a replacement sample will also be drawn.

9.3 <u>Qualification of a Respondent for the present study</u>

     i.   should be an adult

     ii.   should consider himself/herself as a person employed in construction activities

     iii. construction work should have been his/her occupation for the last 240 days in the year preceding the date of interview.

<u>Preferably</u>, be a first-generation migrant.

9.4 <u>Interview Schedule</u>

Part One :: Questions pertaining to Respondents' Bio-data and general profile.

Part Two :: Questions pertaining to Housing, their Residential Choice, Mobility and Economic Profile.

Part Three :: An "Observation Sheet" to be completed at the end of the interview by the investigator

The schedule will be prepared in English and then translated into Kannada, the local language, for easy reference and convenience.

9.5 <u>Proposed Data Analysis</u>

Following Techniques would be used, where appropriate for the data analysis, depending upon the need and data on hand.

a. Qualitative Coding Techniques to describe facts and figures (indices where necessary).

b. Analytical Part

    I. Micro-level Model

        Income; employment opportunities; household size; kind of housing tenure; level of expenses; number of working days in a year; savings and investments. (at household level)

    II. Occupational Category

        * highly skilled; skilled; unskilled; ... ...

        * type of employer (government, private, ...)

    III. Sectoral composition of housing in a spatial-perspective

        i.e. City Centre; Transport to Work Place; Nature of Space-Job Relationships.

    IV. Descriptive spatio-economic sectoral model

        linking income and housing at household and occupational levels.

Various descriptive and statistical methods for analysing the data and reaching the conclusions would be used. Descriptive statistics like arithmetic mean, standard deviation, range and correlation would be used. Various tests like chi-square, t-test and analysis of variance would also be used. Indices will be constructed for the quantitative interpretation of the qualitative data. These analyses together with important indices are expected to provide the degree of affordability to ascertain the relative importance of house ownership, as well as the willingness to pay for the shelter among the construction worker households.

9.6   Time Schedule

01	Preliminary work (literature review, preparation of schema etc)	..	10 weeks
02	Field Work	..	8 weeks
03	Data Analysis	..	10 weeks
04	Draft preparation	..	6 weeks
05	Final Write-ups	..	6 weeks
	Total	..	40 weeks

10.0   Expected Application of the Results

This proposed study is expected to contribute towards the emerging knowledge-base on the issue of "providing affordable, adequate, legal shelter to the low-income households" in the urban areas by basing itself on the description of the present status of the construction worker households in Bangalore city and quantify the extent of their willingness to pay for shelter. It would also trace the nature of relationship between income and housing expenditures among the low-income households.

Specifically, the results of the study are expected to contribute
::

A. To Planners .

Housing-Choice-Decisions depend not only at the government level
but also on each individual households. Thus, planners need to
properly conceive and understand various factors that influence
the housing-choice-decisions of households. the proposed study
is expected to contribute to the merging knowledge-base about the
housing choice from the micro-level to gain the sup[port of the
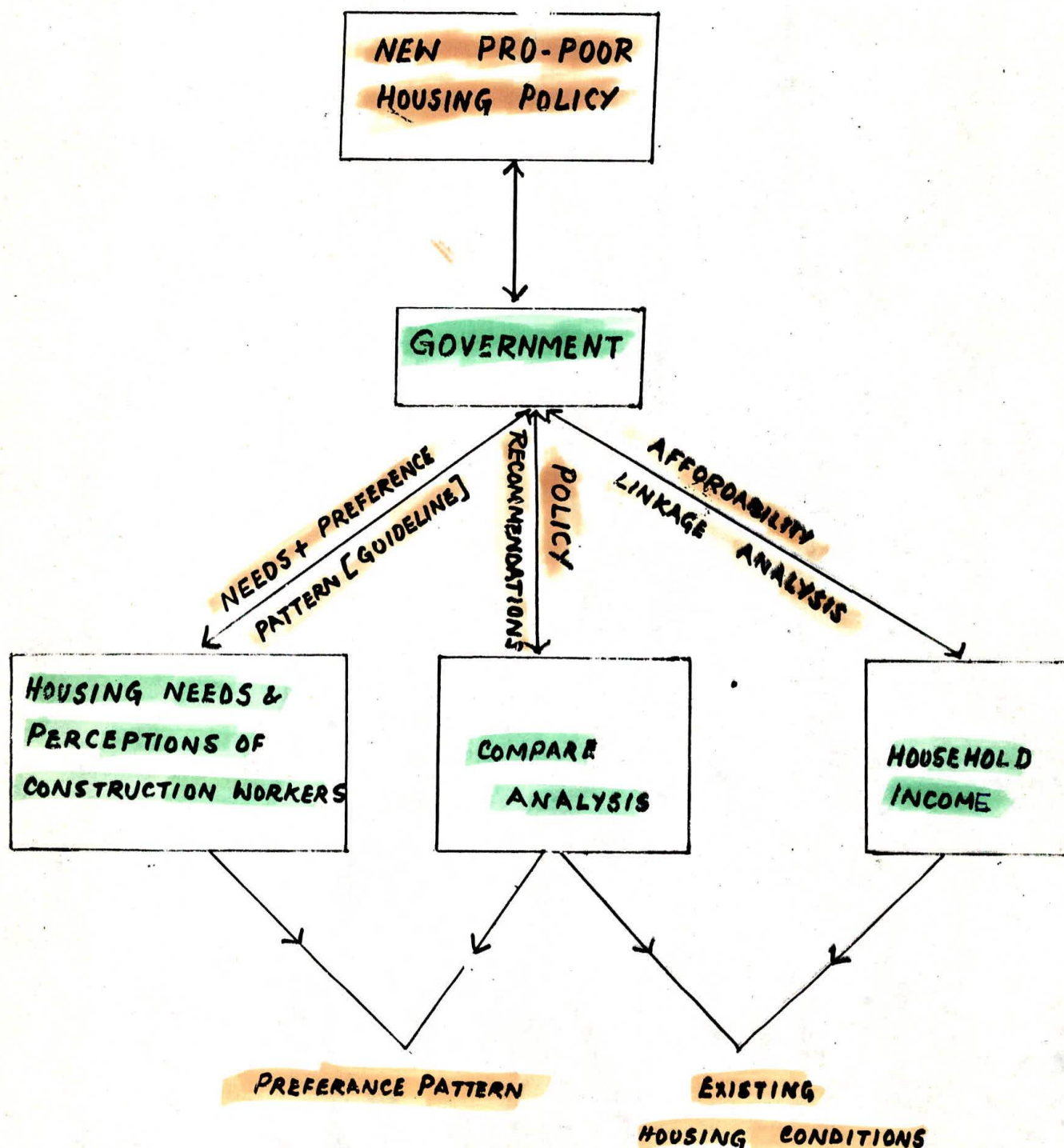poor households for the successful implementation of the housing
schemes.

B. To Scholars

A continued debate is on over the rationality of housing choice
decision process by any social or economic group. By
rationality, we mean household decisions are targeted to the
maximisation of felt needs and changes in housing
preferences/affordability. this study would aim to throw some
light on this debate to identify whether construction workers
make rational decisions or not.

C. To NGOs

A proper perception of the housing choicer decision making
process would help NGOs to understand the adoption pattern which
aims from cumulation of decision making processes undertaken by
households.

DIAGRAM OF THE STUDY FRAMEWORK

NEW PRO-POOR
HOUSING POLICY

GOVERNMENT

NEEDS + PREFERENCE
PATTERN [GUIDELINE]

POLICY
RECOMMENDATIONS

AFFORDABILITY
LINKAGE ANALYSIS

HOUSING NEEDS &
PERCEPTIONS OF
CONSTRUCTION WORKERS

COMPARE
ANALYSIS

HOUSEHOLD
INCOME

PREFERANCE PATTERN

EXISTING
HOUSING CONDITIONS

Actors in Construction Industry

Builders/Developers

Contractors

Employers | Supervisor-Contractors

Self-Employed

Workers | Highly Skilled

Skilled/Semi-skilled

Unskilled/Manual

Repairs/Maintenance

(i)

Building Materials
Manufacturers & Dealers

Others Architects

Town Planners

Various Govt. Agencies

**Types
of Work** Residential

Non-Residential

Public Infrastructure

Furnishing & Services

Repairs & Maintenance

(ii)

SOCIAL INDICATORS

1. EDUCATION

        (i) improvement in skills after migratn

        (ii) Skills acquired

2. STANDARD OF LIVING   DETERMINANTS

        (a) Sewing machine
        (b) Radio/Tape recorder
        (c) T.V
        (d) Refrigerator
        (e) Scooter / Motor Cycle
        (f) Newspaper / Journals
        (g) Bicycle

3. CONTACTS   VALUE/ITEM

        (a) Co-villagers
        (b) Co-province
        (c) City Residents

4. PARTICIPATION

        (a) Membership in Associations
        (b) Political Party
        (c) Others

ECONOMIC INDICATORS	ITEM/VALUE
EMPLOYMENT	BIG DEVELOPER CONTRACTOR SUPERVISOR - CONTRACTOR SELF - EMPLOYED OTHERS
INCOME	HOUSEHOLD INCOME
EXPENDITURE	FOOD CLOTHING EDUCATION HOUSING TRANSPORT RECREATION OTHERS
INVESTMENT	CITY VILLAGE } PURPOSE

(iv)

HOUSING INDICATORS

OCCUPANCY STATUS

Owned

Rental

Leased

Employers

Squatting

Protection Fee

EXPENDITURE

Monthly

OCCUPANCY STATUS SOUGHT

STATUS   LOCATION   AMOUNT WILLING TO PAY

OWNERSHIP
RENTAL
LEASE

(U)

OBSERVATION SHEET

TO BE COMPLETED BY INTERVIEWER HIMSELF AT THE COMPLETION OF INTERVIEW

1. Dress:

    1:1 MEN   _____

    1:2 WOMEN   _____

    1:3 CHILDREN   _____

2. WAY OF EXPRESSION
   (i.e. WAS THE RESPONDENT
   USING ENGLISH PHRASES
   IN BETWEEN)   _____

3. HOUSING

    3.1. INTERIOR
        FURNITURE   _____
        OVERALL ARRANGEMENT
        (i.e. WAS IT PROPERLY ARRANGED
        OR JUST HAPHAZARD)

    3.2. HOUSE TYPE

BUILDING MATERIAL	COMPOUND WALL	HOUSE WALL	ROOF	FLOOR	WINDOWS / DOOR
USED (PLEASE CHECK THE RELEVANT IN EACH COLUMN)	1. CONCRETE/ CEMENT/BAKED BRICKS	1.CONCRETE /CEMENT/BA -KED BRICK	1.CONCRETE /CEMENT/BA -KED BRICK	1.CEMENT PLASTER	1.ONLY WOOD
	2.STONE IN MUD	2.STONE IN MUD	2.BAKED TILES	2.TILES	2.WOOD AND GLASS
	3.EARTH	3.EARTH	3.G.I/ASBE -STOS SHEE -TS	3.MUD PLASTER	3.STEEL
	4.G.I./ASBES -TOS SHEETS	4.G.I/ASBE -STOS SHEE -TS		4.ROUGH SURFACE	4.OTHER (PLEASE SPECIFY)
	5.WOOD	5.WOOD	4.WOOD	5.OTHER (PLEASE SPECIFY)	
	6.BAMBOO/ THATCHED	6.BAMBOO/ THATCHED	5.BAMBOO/ THATCHED		
	7.OTHER PLEASE SPE- CIFY	7.OTHER PLEASE SPE - CIFY	6.MUD 7.OTHER PLEASE SPE CIFY		

4. IF NOTICED LIVESTOCK/CHICKENS RAISED
    IN THE HOUSE: _____ _____

5. REMARK _____

    PLEASE ALSO MENTION HOW RESPONDENT MENTIONED
    ABOUT LIFE IN CITY,(i.e. WITH HOSTILITY,
    SATISFACTION, OR CONTENT)

                    NAME OF INTERVIEWER

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