HOUSING AND HOUSEHOLD AMENITIES IN ORISSA—1981

Dissertation submitted to Jawaharlal Nehru University
in partial fulfilment of the requirements
for the award of the Degree of
MASTER OF PHILOSOPHY

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CERTIFICATE

Certified that the dissertation entitled 'Housing and Household Amenities in Orissa – 1981' submitted by Ms. Piya Ganguli is in partial fulfilment of the requirements for the Degree of Master of Philosophy of this University. This dissertation has not been submitted for any other degree to this University or to any other University and is her own work.

We recommend that this dissertation be placed before the examiners for evaluation.

(Kusum Chopra)

21·7·89

Chairman

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Supervisor

ACKNOWLEDGEMENTS

First of all I would like to thank my supervisor, Dr. M.K. Premi, for his guidance and encouragement during the study and patient supervision of the dissertation.

I would also like to thank my parents and sister for their love and inspiration. Finally, I would like to thank Poonam for helping me through the most hectic moments and Gopa for his help in the rest of the study. Thanks are also due to all the other friends who helped me and Jaideep for doing my typing and the UGC for providing me with fellowship.

Piya Ganguli

Piya Ganguli

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CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

The term 'quality of life' is being used very widely these days. Quality of life differs from 'poverty levels' as it not only takes into account the actual standard of living of the people, in terms of physical standards, but also the mental perceptions of the people themselves on their living standards. The concept of quality of live encompasses a large number of factors. One of the indications of physical quality of life is the housing quality.

In 1981, the census of India, in its household tables. Part VIII A and B (i) and (ii) , provides district level information on housing such as building materials used for a house, persons per room and amenities available to house holds. This data, in such detail was not available in the earlier census's or from any other source. Taking advantage of this data and keeping in mind the scope of the study, it was decided to take up one aspect of the physical quality of life - namely housing. Six students stook up this study for six different states of India. The states were selected according to their location; two states from north India, one from the south, one from the west and two states from the east; hoping for an overall picture. Data availibility also played a role in the selection of the states.

In this particular study, the state dealt with is Orissa which represents a backward state of eastern India. An effort has been made to understand the quality of housing in

Orissa from the house types, the amount of congestion and the amenities available to the household at district level for rural and urban areas. The first chapter which is the introduction brings out the importance of shelter and the necessity of propoer amenities keeping in mind the various ways it effects people. This chapter also given a brief review of housing conditions in India and the importance it is given, followed by the purpose of the study and objectives of the study. A background of housing of the areas of study is also given. The methodology applied for this study is also presented in this chapter.

HOUSING CONDITIONS AND ITS IMPORTANCE

Shelter figures among the basic necessities of man, the others being food and clothing. While food and clothing have been getting adequate attention from the earliest of times, shelter has always been considered as just finding a place to live in ignoring all the other dimensions it plays in human life.

The importance of shelter is emphasized in the words of Medearis -- 'We live in a world within which all is interelated. Everything in the environment has an effect in some degree on a person's physical, mental and spiritual well-being. In the past there has been a tendency to view the physical as being a reality different from the material and spiritual. A house was considered shelter independent of

everything else having no particular influence on our well-being other than physical. We now realize that this is an incomplete view of the interreladness of people and their environment [1].

Housing is a basic human right and this has been stressed decades ago in article 25 of the Universal Declaration of Human Rights. The right to a standard of living adequate for health including other needs like schools, hospitals, roads, water supply and cultural needs [2]. The deteriorating housing conditions in the world have often been attributed to urban migration and inadequate allocation of resources. The rural population is, therefore, often neglected [3].

Shelter does not, therefore, include jsust a living space, but also the quality of the house, the amenities available to the residents of the house and the number of residents sharing these amenities. Therefore not only the quantitative aspect, but the qualitative aspect of housing is important.

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1.   Medearis RW 'Wholistic Habital' From Dakhil FH et al 'Housing Problems in Developing Countries - Proceedings of IAHS. International Conference 1978' Vol I. John Wiley & Sons 1978. p 13.

2.   Parvathamma C and Satyanarayana 'Housing Rural Poor and their Living Conditions' Sian Publishing House. Delhi. 1987, p.4.

3.   Ibid p. 5.

Housing has gained further importance by its shortage in recent times. With prevailing high rents, in urban centres, housing is the largest component of the budget of a household - about 15 percent to 25 percent of the total expediture, and varying between 5 percent to 40 percent in lower income brackets[4]. In this race for the attainment of a house, often the qualitative aspect of housing is ignored. In most underdeveloped countries, the quantitative side of housing takes on such awesome dimensions that the question of quality does not arise[5].

The quality of housing is important is a number of ways. It effects almost every part of human life. It has environmental, social, economic and health dimensions.

In terms of environment, a house is basically built to protect one from the forces of nature. Therefore, a good quality house is very vital for this, keeping in mind weather conditions and natural disasters. Good quality is not only in terms of materials used but also structure.

Materials used in constructing a house play an important role in determining the health of its residents. It is further affected by the nature and quality of amenities available therein. For example, poor ventialation or continuous dampness have been found to affect health

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4.   Hajra S and Kumar A 'Housing India's Millions' Economic and Scientific Research Foundation 1977. p 1.

5.   Dholakia BH 'The Economics of Housing in India I.I.M., Ahmedabad 1980. p 1.

advensely usually leading to respiratory disorders. Similarly, many water borne diseases prevail because of non availibility of safe drinking water. However a direct association between the type of dwelling and health whether physical or mental - is difficult to establish without associating other factors which are correlated with housig circumstances. These are class, income etc.

As regards the social aspect of housing, the minimum socially acceptable standard of housing is the thing that is required by all human beings. This 'need' differs from the economic concept of housing 'demand'. 'Housing need the extent to which the quantity and quality of existing accomodation falls short of that required to provide each household or person in the population, irrespective of ability to pay, or of particular personal preferences with respect to accomodation of a specified minimum standard and above'[6]. However, there is no sharp divide between housing need and demand. The choice of minimum socially acceptable standards is not completely independent of the incomes and prices prevailing in the country concerned, while the same demographic factors that largely determines housing needs also stroughly influence, the effective demand for dwelling units'[7]. The economic dimension of housing becomes important when one wants at least the minimum standards

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6.   Needlcman 'The Economics of Housing' Staple Press, London 1965. p 2.

7.   Ibid.

commensurate with one income. In third world countries, house serves as a dwelling unit as well as a centre for several types of small scale economic activities like tailring, black smithing, pottery, spinning, weaving etc. Further, the housing industry gives rise to several ancillary industries and directly or indirectly provides employment to a large part of the population. Thus increasing their purchasing power as well [8].

Though a lot of literature is available on housing, there is none dealing solely with quality of housing. In most cases, only a small portion of the study is for quality of housing. Most of the studies include various aspects of housing like housing stock, demand, finance etc and housing quality is only a small part of the study. Moreover, none of the studies have attempted an index for housing quality. Therefore, only a few examples of the literature cana be sited and even in these only a part of the study in for housing quality.

Koth M.N [9] et al is study of Housing in Latin America derotes one chapter to housing condition in the urban and rural ares of Latin America stemming from the existing and changing conditions.

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8.   Abiams C 'Housing in the Modern World' Faber and Faber Ltd. 1964. p 109

9.   Koth M.N., et al, 'Housing in Latin America' Massachussets Institute of Technology Press. U.S.A., 1965.

The housing/condition is dealt from the point of view of number of occupied dwellings and average number of rooms per dwelling, the basic amenities available like water, toilets bathing facilities gan or electricity; the ownership of dwelling. The existing and changing conditions are explained but no mathematical analysis for measuring the housing conditions is made.

The United Nations[10] has also dealt with housing conditions as part of a global series of human settlements in 1976. The housing conditions are dealt by seeing the existing stock and ownership of dwellings, persons per room, basic amenities available which includes water supply, sanitation facilities, electricity. Other indicator include authorised and unauthorised dwelling and housing finance. Again, only a description is given.

A book by Parvathamna[11] et al. based on a research project for University of Mysore in 1981 deals with housing storage among low income groups and the poor and houseless in rural areas of Karnataka. The book mainly deals with housing in terms of quality, though the third chapter on 'Housing in Karnataka' deals with quality of housing to some extent. House types are studied according to kutcha and pucca though only roof and wall materials are considered. Persons per

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10. UN 'Global Review of Human Settlements — A Support Paper for Hotital; United Nations Conference on Human Settlements' Pergamon Press, 1976

11. Parvathamna op. cit. Ibid

room per household is also seen and ownership and **********
status is also looked into.

As part of a series of papers on level of living in
rural West Bengal in 1972-73 and 1985-86, housing conditions
were dealt with in an article by Bhattacharya N. et al.[12]
Housing conditions included number of rooms per household,
area of rooms and type of structure of house (pucca, semi-
pucca and kutcha). Basic amenities were dealt with in a
seperate paper under social consumption.

For Orissa, quality of housing is dealt with in
Jinah's[13] look, where he discusses the type of house and
animities available.

HOUSING IN INDIA

In India, large scale investment is required to meet the
demand for housing. In most developing countries, as the
resources are limited in relation to needs, other pressing
demands in the area of health, nutrition, transport,
education, infrastructure facilities and growth of industries
have to be given due importance. Therefore, housing has to
compete with other sectors for public as well as private
investment even though it has been recognized as an important

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12. Bhattacharya N et.al 'Changes in Level of Living in
Rural West Bengal - Housing Conditions' Economic and
Political Weekly. (Sept 5 - 12) 1987. p 1559 to 1560.

13. Sinha B.N. 'Geography of Orissa' National Book Trust,
New Delhi, 1971.

element among social priorities . It is necessary to resolve

the problems of resource allocation by surveying the

resources available. The priority to housing has to be done

with this in mind and the other requirements of the

population [15] .

According to a Planning Commission report, the housing

shortage at the begining of the Fifth Five Year Plan was 15.6

million housing units taking into account minimum acceptable

standards of housing. Moreover, it is necessary to increase

housing expenditure annually almost three-fold in each of the

subsequent plans to overcome the existing backlog of housing

shortage in twenty years. However, this has not been the

case and expenditure on housing with regard to other plan

allocatious, in fact, has gone down with each plan [16] .

The following table shows the decennial growth rates of

population, house holds and housing stock for the years 1961-

71 and 71-81.

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14.   Dholakia op. cit p 5. Ibid

15.   Ibid.

16.   Ibid. p 110.

Table 1.1

DECENNIAL GROWTH RATES OF POPULATION, HOUSEHOLDS
AND HOUSING STOCK (1961-71 AND 71-81)

HOUSEHOLDS AND HOUSING STOCK(1961 - 71 AND 71 -81)

		Percentage growth rate	
		1961 - 71	1971 - 81
POPULATION	T	24.8	25.0
	R	21.9	19.7
	U	38.2	46.4
HOUSEHOLDS	T	16.2	26.3
	R	23.2	32.9
	U	28.2	52.4
HOUSING	T	27.4	23.0 STOCK
	R	14.3	16.2
	U	32.1	50.3

The table shows that during 1971 - 81, the rate of growth of total population and total households was much higher than the growth rate of housing stock. This is more serious in the rural areas in comparisn to urban areas. Though rural population growth rate shows a slight decline,

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12.   'Housing Stastics at a Glance' NBO.1987 Table 1.4   p 4

the percentage of rural households have increased, while increase in housing stock is neglibible. In the urban areas, though the housing stock has increased, it is not in keeping with increase in population and households.

In India, as is well known, the quality of existing houses is generally very poor. Many of the structures are dilapidated and are deteriorating every year. There is also a predominance & kutcha houses not only in rural areas, but also in urban areas. Basic amenities like drinking water, electricity and toilet facilities are not available to majority of the households. Only 4.6 percent of rural houses had tap water in 1973 - 74 and 10.3 percent in 1981[18]. In urban areas it was 67 percent in 1973 -74 and 63.2 percent in 1981[18]. In urban areas, creation of fresh slums and squatter settlements every now and then accentuates these problems. Electricity and toilet facilities are available to only a few households among them. While only 14.6 percent of the rural households have electricity, in the urban areas it is 62.5 percent. In rural areas 92.4 percent of the households have no toilet facilities. In urban areas this is available to 33.0 percent of the households only[19].

Number of rooms per households also shows unsatisfactory results. In rural areas 44.2 percent of the households have only one room and 28.7 percent have two rooms. In urban areas these proportions are 45.5 percent and 27.6 percent

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18. Ibid p 27

19. Ibid p 29 and p 30.

MAP 1   ORISSA   ADMINSTRATIVE   MAP-1981
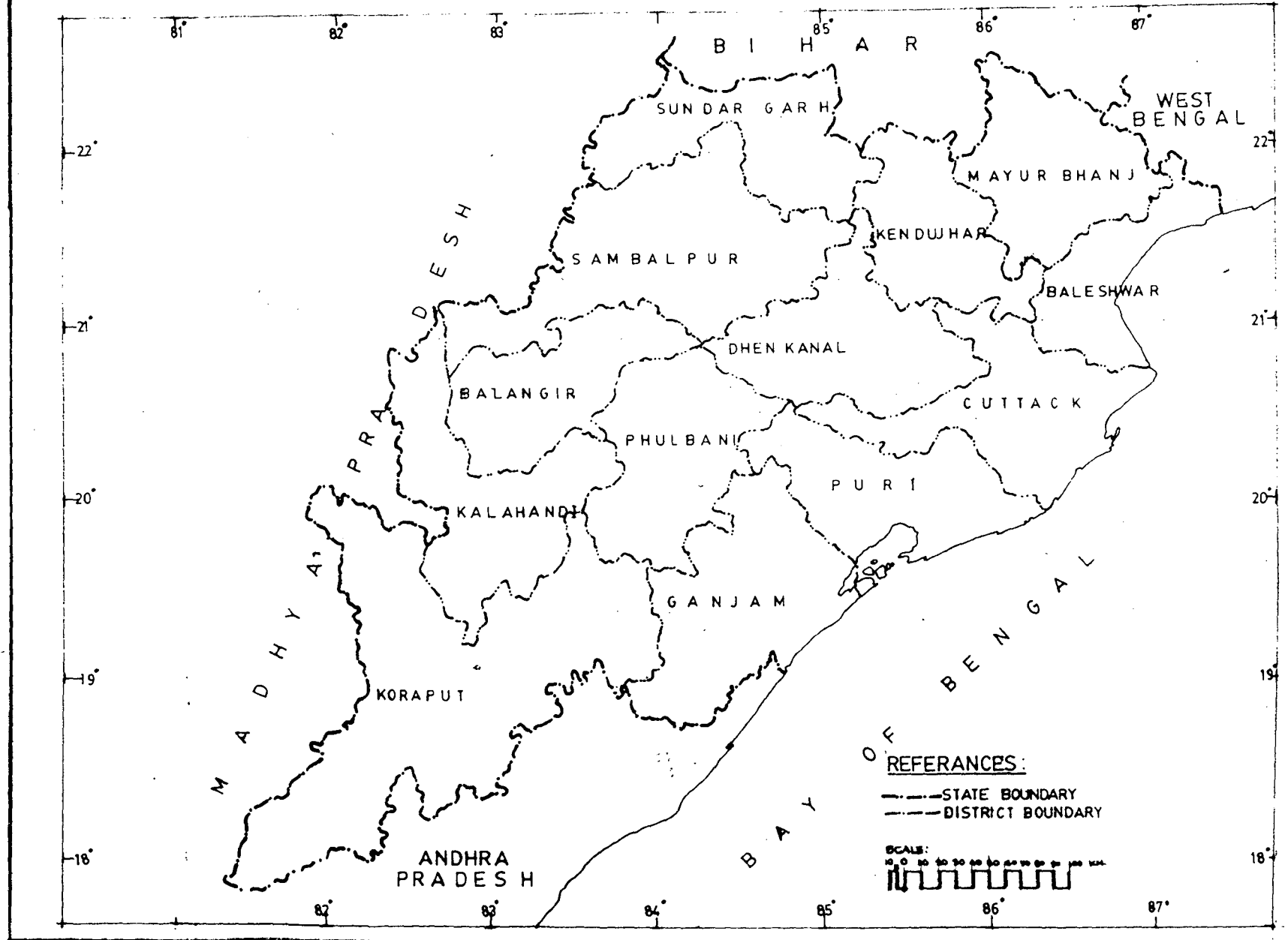
respectively . Thus there is overcrowding as well.

In India, therefore, the problem of housing takes on both quantitative and qualitative dimensions.

OBJECTIVES OF THE STUDY

Taking into account these data, the following are the objectives of the study:-

(a) To find out the districbution of households into predetermined categories of each indicator.

(b) To study the regional pattern, if any, in the various indicators of housing condition in the rural and urban areas of the districts.

(c) To find reasons for the differences in the indicators among the districts.

(d) To see if there is a relationship between the indicators themselves. For example, katcha houses will generally be assumed not to have protected water within premises or toilet facilities. Also whether overcrowding is a characteristic of rural or urban areas and whether it has any relation to house types.

(e) To find an index which would show the housing conditions and amenities available in totality for rural and urban areas of the districts.

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20. Ibid p 24.
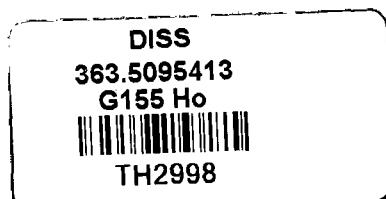
A BACKGROUND OF HOUSING IN ORISSA

From the point of view of housing quality ie durability and non-durability of houses, Orissa is among the economically backward states like Manipur, Tripura, Meghalaya and Assam with 70 percent of its total residential houses made of non-durable materials [21]. In the rural areas of the state this goes up to 74.3 percent, while in the urban areas it is 33.2 percent; putting Orissa among the states with the largest number of Kutcha houses [22].

In 1981, in terms of amemties available also the state is backward, with protected water within the premises available to only 17.2 percent of the households; the proportion in rural areas being only 13.9 percent and, in urban areas, it being 40.4 percent. Electricity is also available to only 17.8 percent of the households; 13.0 percent in rural areas and 51.7 percent in urban areas. There are no toilet facilities in rural areas or it is negligible because their is no data available. In urban areas 58.1 percent of the households have no toilet facilities [23].

This study, therefore attempts to find out the distribution of these indicators giving due importance to

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21.   Census of India 'Housing Report and Tables - Orissa' Series 16 Part IV, Controller of Publications Delhi 1971, p 53.

22.   Ibid.

23.   Census of India 'Household Tables - Orissa' Series 16 Part VIII A and B (ii) 1981. Controller of Publication, Census of India, Delhi.

factors effecting housing and amenities and room density in rural and urban areas of the state.

METHODOLOGY

Keeping the objectives of the study in mind, a methodology had to be developed which would facilitate in bringing out the objectives. The study is carried out at the household level as it was felt that a household represented a unit which ideally had to be served by a particular amenity. If the proportion of populations served is taken into account, we overlook the fact that the study is basically on housing conditions where a particular house is owned by a household rather than an individual in the population. Therefore it was felt that carrying out the study at household level is more relevent.

In this section the development of the methodology in terms of the indicators chosen, the reason for their selection and the final method applied taking into account the data available is discussed. The data collected is at household level for 1981 based on the census data. According to the 1981 census a household is defined as 'a group of persons who commonly live together and would take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so. There may be a household of persons related by blood or a household of unrelated persons or having a mix of both. Example of unrelated houses are boarding houses, messes, hotels, residential hotels, rescue

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homes, jails and ashram etc. These are called institutional households. There may be one-member households, two-member household or multi-member households. For census purposes, each one of these types is recognizzed as a house hold'[24].

The households differs from the census house. The census house is defined as "a building or part of a building having a separate main entrance from the road or common courtyard or staircase etc, used or recognized as a separate unit. It may be occupied or vacant.. It may be used for residential or non-residential purpose or both[25]. Thus a census house encompasses vacant houses as well as non-residential houses, while household data given an idea of the people and therefore, the number of household availing of the facilities can be found. While taking into account the households, institutional households and 'houseless households' were excluded from the study. This was done because institutional households form a separate category and are very different from the normal household.

SELECTION OF INDICATORS AND DATA AVAILABLE

The indicators selected to study the housing condition of Orissa were selected from the point of view of quality in terms of durability of the house which the household

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24. Census of India'Household Tables Part VIII A and B (i) & (ii) Orissa', Controller of Publications, Delhi 1981 p 7.

25. Ibid

occupies, the availibility of basic amemities to the household and the intensity of use of the house and amenities by the household. The last point basically deals with rate of congestion. Earlier the issue of privacy was also considered, which was felt to be best represented by couples per room. However, this was dropped for reasons which will be dealt later.

The 1981 census in its 'Household Table Part VIII A and B (i) & (ii)', provides information on the materials used for building of houses by households. The data is a cross classification of the material used for roof, floor and wall, therefore giving the combinations of materials for all three in a house. A part of the table as given in the census is shown in the appendix (annexure 1). In the earlier census's this information was available only for roof and wall.

The census further provides information on number of households being served by the basic amenities of electricity, drinking water and toilet facilities. While data on electricity and toilet facilities to households is only on the basis of availibility and non-availibility, the data on drinking water is given on the basis of source of drinking water and whether available outside the house premises (annexure 2,3).

Information is also available for households by size and the living rooms occupied by the household. The household size is by number of members from one to over six members, while number of living rooms occupied by the households is

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given from households with no exclusive room to households with six rooms and above (annexure 4).

All these data are available at state and district level separately for rural and urban areas.

CLASSIFICATION OF THE INDICATORS

1.HOUSE TYPE

The first indicator considered to study the housing conditions was the distribution of households according to the predominant material used for roof, wall and floor. Taking advantage of the cross-classification given by the census, four classes were made. Earlier, a classification according to the combination of materials used gave more than 500 categories. Therfore it was felt that this should be narrowed down to make analysis easier. Four classes were made.

(a) Kutcha

(b) Semi - Pucca I

(c) Semi - Pucca II

(d) Pucca

The main basis of division was the durability of the house considering the materials used. The most durable are the pucca houses with all three parts i.e. roof, wall and floor made of durable materials. The semi-pucca II houses had two parts made of durable materials and one part of non-durable material. Semi-pucca I houses had two parts non

durable and one part durable; while kutcha houses are those with all the parts made of non-durable materials.

Durability is on the basis of replacement factor. Some materials have to be replaced frequently or at regular intervals, otherwise they become useless. The rate of replacement differs for materials. Some materials like RBC/RCC or stone can claim a very long life. Replacement is very rare in this case. problems were faced in case of some materials like tiles which could not be placed under either kutcha or pucca because tiles are more durable than materials like grass, leaves or reeds, but less durable than RBC/RCC. therfore, they had to be placed in the semi-pucca I or II categories depending on the combination of the materials of the other two parts. The semi-pucca I and II categories are, therefore, very large. The division are given in the appendix (Annexure 5 and 6).

Households, which had houses for which materials were not stated were subtracted from the total households. The percentage of these househlds, however, is very small.

2. ROOM DENSITY

The second indicator is persons per room in a household which would give an idea of the rate of congestion. Initially, the issue of privacy had been taken into account with couples per room serving as the indicator. However, this indicator was dropped as couple less than number of rooms showed proportions as high as 98 percent; while persons

per room showed that large number of persons were in fewer rooms. Therefore these two indicators contradicted each other. Consequently, the indicator, couples less than number of rooms was dropped.

For the number of persons per room in a household, the number of persons in the total households at district land was divided by the total number of rooms. ie

Persons in the households in a district

No. of rooms in the household in that district.
Five classes were made which are:-

(a)   Less than one person per room.

(b)   One or more but less than two persons per room .

(c)   Two or more but less than three persons per room

(d)   Three or more but less than four persons per room

(e)   Four or more persons per room.

Institutional households and houseless households were not counted. After evolving these categories, proportion of households were determined falling under each category.

3. BASIC AMENITIES AVAILABLE - DRINKING WATER, ELECTRICITY TOILET

The third, fourth and fifth indicators deal with the basic amenities available to the households. The amenities are drinking water, toilet facilities and electricity. The categorization of each amenity is as follows:-

(1). Drinking Water Availibility.

(a) Protected within premises

(b) Protected outside premises

(c) Unprotected within premises

(d) Unprotected outside premises

The sources of drinking water considered under protected were tap and handpump/tubewell. Unprotected sources are well, river/canal, ponds and other sources.

2. Electricity

(a) Available.

(b) Not Available.

3. Toilet Facilities

(a) Available.

(b) not available.

In the case of tiolet facilities, data for rural areas were not available in the census. In each of the amenities their percentage availibility to total households was found.

THE COMPOSITE INDEX

Besides considerisng the individual indicators, it was felt that a composite index which shows the housing conditions in totality was required. As all these indicators in combination determine the housing condition the necessity of a composite index became more important.

The index can be divided into three parts which are:-
The main wieghtage, the sub wieghtage and the percentage of
the indicator.

Main Wieghtage - The five indicators were each given a
wieghtage. To find the wieghtage a new method was applied.
Fifteeen students from Orissa were selected at random. Out
of these ten were from urban areas and five were from rural
areas. They were asked to give wieghtages to the five
indicators according to the importance they would attach to
them keeping in mind their background. Earlier it was
planned to take ten students from urban and ten from rural
backgrounds. However, it was not possible to get ten
students from rural background.

It was hoped that by this method a more objective view
of the situation would come forth since the residents of the
particular state would have a better idea of the importance
of each of teh indicators as applicabale to their state. The
average wieghtage of the rural and urban areas was calculated
separately and this became the main wieghtage. The
wieghtages given by the students is given in the appendix
(annexure 7).

The Wieghtage - This was given to bring into focus the
diiferences within a particular indicator acording to the
best and worst situations. The method applied in this was
simple with the lowest wieghtage being given to the worst
situation, while the best situation got the highest
wieghtage. They are as follows:-

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1. House Type	Sub Wiedghtage
(a) Kutcha	1
(b) Semi - pucca I	2
(c) Semi - pucca II	3
(d) Pucca	4

The wieghtage of 1,2,3,4 was given according to the durability of the house. While Kutcha houses were least durable they got a subwieghtage of one, the semi=pucca houses were slightly better with one part of the house being durable therefore getting subwieghtage two and so on. It may be added here that the life of pucca house is not just 4 times the life of a kutcha house, it would be many times more, but there seemed to be no way of arriving at an objective weightage. Consequently, simple weightage of 1,2,3 & 4 were assigned to the four categories. Similar situation existed with other variabales. There also the same procedure has been followed.

The second indicator of electricity had the alternative between availibility and non-availibility. The same was for toiled facilities. They wieghtages are :-

2. Electricity	Subwieghtage
(a) Available	1
(b) Not available	0

3 Toilet Facilities	Subwieghtage
(a) Available	1
(b) Not available	0

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For drinking water and room density the same principle as house types was applied to determine subwieghtage. They are as follows :-

4.   Drinking   Water   Sub- wieghtage

  (a)   Protected within premises   4

  (b)   Protected outside premises   3

  (c)   Unprotected within premises   2

  (d)   Unprotected outside premises   1

5.   Room Density   Sub-wieghtage

  (a)   Less than one person per room   5

  (b)   One or less than two persons per room   4

  (c)   Two or less than three persons per room   3

  (d)   Three or less than four persons per room   2

  (e)   More than four persons per room   1

Talking all these wieghtages and sub-wieghtages, the composite index for housing conditions is as follows :-

$$\sum \left[\frac{W_n}{\sum W_i} W_i \left[\frac{S_1(V_1) + \ldots \ldots S_n(V_n)}{\sum S_n} \right] \right]$$

Where

W_i =   Main Wieghtage

S_i =   Sub Wieghtage

V_i =   Percentages of indicator,

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The percentage of each indicator was found to total household and this was used to find the index. The index was found for each of the districts for the rural and urban areas separately.

CHAPTERIZATION

The rest of the chapter are :- The second chapter deals with the housing conditions in Orissa i.e. the distribution of households according to house types. This is dealt at the district level for the total district and rural and urban areas.

The third chapter deals with the distribution of amenities among the house holds districtwise for total, rural and urban areas.

The fourth chapter discusses the density of persons per room in the households for the district - total, rural and urban. The fifth and last chapter is an analysis of the index and also contains the conclusion bringing out the total distribution of all the indicators as well as the differences brought out by the index.

CHAPTER II

HOUSING CONDITION BY

HOUSE TYPE IN

ORISSA - 1981

The material used for construction of a house is a very important indicator of the quality of the house. The durability of a particular house to stand against weather conditions and other envirourmental factors, as well as in terms of security to the residents against thefts etc is reflected through the quality of the material used.

The quality of materials used depends on various factors like the nature of locally available building materials, climatic conditions, and the economic status of the personet[1]. For a rich man, the house becomes a status symbol and expensive materials are used combined with architectural designs. Here the factors of locally available materials and climatic conditions play very little role. Only when a person is not well-to-do that the first two factors, especially the nature of building materials locally available becomes an important parameter. Therefore the type of building material used gives a good idea of ones economic condition. To stretch the comparisn further, one could say that the relative prosperity of a village or town can be measured by looking at the type of houses.

As mentioned in Chapter I, acording to the durability of house owned by the households, four house types were classified. They are Kutcha, Semipucca I, Semipucca II and Pucea.

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1.   Census of India, 'Housing Report and Tables -   Orissa, Series 16, Part IV - 1971' Controller of Publications, Delhi, 1971. p. 28.

MAP 2

DISTRIBUTION OF TOTAL HOUSEHOLDS — ORISSA — 1981
[ACCORDING TO HOUSE TYPES]

BIHAR

WEST BENGAL

SUNDARGARH

MAYURBANJ

KENDUJHAR

SAMBALPUR

BALESWAR

DHENKANAL

BALANGIR

CUTTACK

MADHYA PRADESH

PHULBANI

PURI

KALAHANDI

GANJAM

KORAPUT

BAY OF BENGAL

ANDHRA PRADESH

LEGEND:

HOUSE TYPE

KUTCHA

SEMI PUCCA-I

SEMI PUCCA-II

PUCCA

500000

100000

10000

NO. OF
HOUSE HOLDS

SCALE:
20 10 0 20 40 80 100 K.M.
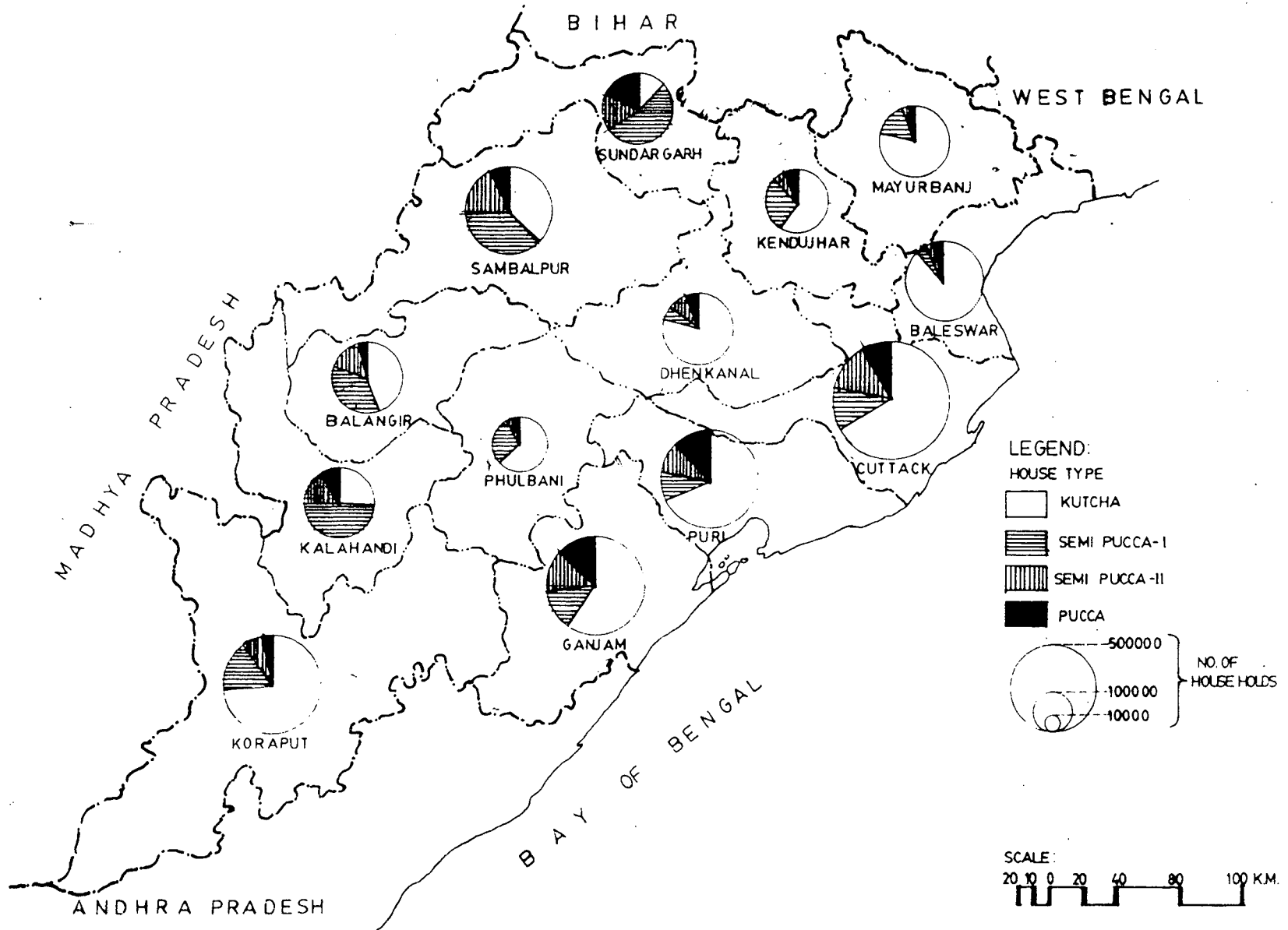
DISTRIBUTION OF HOUSEHOLDS BY HOUSE TYPES IN ORISSA FOR 1981

In Orissa, on the whole, in 1981, 62.5 percent of the households lived in Kutcha houses while only 7.5 percent lived in Pucca houses. Households falling in the semipucca I category constituted 20.4 percent, while those falling in the semipucca II category amounted to 9.6 percent. Therefore we see the predominance of kutcha houses. In Orissa, this is largely due to the predominance of rural population in the state, as is true for the country as a whole. Therefore it is necessary to study the rural and urban areas separately to get a true picture of the situation.

When one examines the rural-urban breakup one finds that two-thirds of the rural households live in kutchaa houses, while only 4.5 percent have pucca houses. The categories semi-pucca I and semi-pucca II have 20 percent and 8.5 percent households respectively.

In urban areas, in contrast, almost one-third (31.9 percent) of the households have pucca house and roughly a similar proportion (28.5 percent) were living in Kutcha houses. The semi-pucca II category with 23.6 percent of the households, dominates over semi-pucca I which has 16 percent of the house-holds.

Therefore, even though the prcentage of pucca houses is higher in urban areas in comparisn to rural areas, within the urban areas itself, the percentage difference between pucca and kuthca houses is not much. This suggests the existence

of slums and squatter settlements.

The commonly used materials in the kutcha house throughout the state seeme to be mid or grass, leaves, reeds and bamboo for walls; for the roof the materials are grass, leaves reeds, thatch, wood, mud, unburnt bricks or bamboo; for the floor the pre-dominant material is mud.

These materials are preferred mainly because of their easy availibility and very low cost. Besides, a mud-walled house serves other purposes as well; for example in some district of Orissa, like Baleshwar, Cuttack and Puri, it is common practice to dig earth from a part of the land and use it to build walls while the hollow becomes a pond for bathing and drinking water as well as for rearing small varieties of fish. Thus in one operation, three purposes are served, namely, of a dwelling place, suficient water supply and fish[2]. Houses with walls made of grass, leaves and reeds are found mainly in interior areas of districts which have reserve forests[3].

Roofs of thatch are common in paddy growing areas where paddy hay is easily available and is very cheap lerth in urban and rural areas. However this kind of roof is prone to fire if the houses are located close to each other. Though precautious are taken with a mud - plastered cieling provided

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2.   Census of India 'Report on Housing and Establishment Orissa, Vol XII, Part IV - A' pg. 122. Controller of publications, Delhi. 1961. p. 122.

3.   Ibid p. 123.

under the thatch. For protection against rains and storms, the roofs are made low [4].

However, despite the precautious taken and the economy in construction, Kutchaa houses have many problems. This is because, under extreme conditions of climate and other natural disasters, they are the first to fall. Even strong buildings made of Rcc/Rbc are badly damaged in case of cyclones, flash, floods etc. The problems of floods causing heavy destruction is relatively more frequent in Brahmini, Baitorni, Subarnarekha and Mahanadi basins in Orissa. The problem of drainage congestion due to storm urge caused by cyclone occuring simultaneously is experienced in coastal parts of the state, and the innundation caused by the branches of the rivers in and beyond the esturies is further aggravated [5].

The semi-pucca I and semi-pucca II categories contain a large number of combinations but do not form a very large percentage, though, in oural areas semi-pucca I category dominates over semi-pucca II category. Semi-pucca I houses are an improvement over Kutchaa houses and semi-pucca II houses indicate further improvement over semipucca I houses. Semipucca I houses being more than semipucca II houses shows

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4.   Ibid pg. 125.

5.   ESCAP 'Housing in Disaster Prove Areas - Report of the Development Group' pg. 5, Govt. of India, National Building Organization and UN Regional housing Centre, 1987.

that the economic condition of the person may have improved only to the extent that he is now able to move from a kutcha house to a semi-pucca I house.

In the rural areas this situation exists, but in the urban areas the semi-pucca II category is more than semi-pucca I houses. Therfore, the ideal of a pucca house fall short for a large proportion of the populations. Pucca houses form a very small minority in the state, more so in the rural areas, while in the urban areas as indicated earlier, almost one-third of the households live in pucca houses. In rural areas a pucca house is only possible if a person in affluent, but in the urban areas, government housing schemes and many industrial estates provide pucca houses. Thefore, economic condition is not the only reason for larger percentage of pucca houses in urban areas [6].

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6. Census of India 'Housing Report and Tables - Orissa. Series 16, Part IV' Controller of Publications. Delhi 1971. p. 30.

MAP 3

DISTRIBUTION OF RURAL HOUSEHOLDS- ORISSA - 1981
(ACCORDING TO HOUSE TYPES)

BIHAR

WEST BENGAL

SUNDARGARH

MAYURBANJ

SAMBALPUR

KENDUJHAR

BALESWAR

DHENKANAL

BALANGIR

PHULBANI

CUTTACK

KALAHANDI

PURI

GANJAM

MADHYA PRADESH

KORAPUT

BAY OF BENGAL

ANDHRA PRDESH

LEGEND:
HOUSE TYPE

KUTCHA

SEMI PUCCA -I

SEMI PUCCA -II

PUCCA

500000

100000

NO.OF
HOUSEHOL

10000

SCALE:
20 10 0   20   40   80   100 K

DISTRIBUTION OF URBAN HOUSEHOLDS ORISSA – 1981
(ACCORDING TO HOUSE TYPES)

MAP 4

BIHAR

WEST BENGAL

MADHYA PRADESH

SUNDARGARH

MAYURBANJ

KENDUJHAR

SAMBALPUR

BALESWAR

DHENKANAL

BALANGIR

CUTTACK

PHULBANI

KALAHANDI

PURI

GANJAM

KORAPUT

BAY OF BENGAL

ANDHRA PRADESH

LEGEND:
HOUSE TYPE

KUTCHA

SEMI PUCCA–I

SEMI PUCCA–II

PUCCA

100000

10000

1000

NO.OF
HOUSEHOLDS

SCALE:
20 10 0 20 40 80 100 K.M.

DISTRICTWISE ANALYSIS OF DISTRIBUTION OF HOUSEHOLDS ACCORDING TO HOUSE TYPES:-

(a) DISTRIBUTION OF KUTCHA HOUSES AMONG HOUSEHOLDS In Orissa

Table 2.1

PERCENTAGE HOUSEHOLDS

	DISTRICT	TOTAL	RURAL	URBAN
1.	Sambalpur	37.0	42.7	12.1
2.	Sundargarh	12.5	10.4	14.7
3.	Kendujhar	60.7	66.0	23.9
4.	Mayurbhauj	77.6	79.7	40.5
5.	Baleshwar	88.6	91.0	62.3
6.	Cuttack	79.9	84.9	32.4
7.	Dhenkanal	79.9	83.6	39.9
8.	Phulabani	64.2	64.8	53.9
9.	Balangir	43.9	45.2	24.9
10.	Kalahandi	26.0	26.8	16.9
11.	Koraput	73.5	75.8	45.6
12.	Ganjam	59.4	63.4	32.9
13.	Puri	68.5	76.6	26.3

A districtwise analysis of Orissa shows that Baleshwar had the highest proportion of households (88.6 percent) having Kutcha house. This was followed by Dhenkanal and Cuttack with 79.9 percent each. The districts with the lowest proportion of household having kutcha houses are

Sundargarh and Kalahandi, followed by Sambalpur. The remaining district had between 40 to 75 **percent of the** household with kutcha houses. (Ref. Table 2.1)

As one would expect, the percentage of kutcha **houses** is very high in the rural areas in all the district as compared to the urban areas. Exceptions exist in the case of Sundargarh where kutcha houses amount to 10.4 **percent** in rural areas and 14.7 percent in urban areas. Similarly in Kalahandri the proportion of households with kutcha houses in the rural areas was 26.8 percent and in the urban areas it was 16.9 percent. The districts with the largest pecentage of kutcha houses both in rural and urban areas is Baleshwar (ref table 2.1). The proportion of households with Kutcha houses in rural areas in other district varied between 60 percent to 85 percent. The districts having large number of kutcha houses even in urban areas are Mayurbhanj, Cuttack, Dhenkanal, Phulabani, Koraput and Ganjam. The rest of the districts generally have below 25 percent Kutcha houses in their urban areas. Out of these Cuttack and Ganjam are coastal districts (ref Map 2) and more developed than others on the list. Dhenkanal is also more developed. These districts stand out as odd ones out.

The reason why such poor quality materials like mud, grass, leaves, reeds or bamboo find favour for construction of houses in urban areas may be found in the large number cheap temporary hutments fast coming up to accomodation the

wage earning labourers, rickshaw pullers, petty workers and other who migrate to towns to earn thier livehood. Due to the uncreasing influx of such persons to towns, slums consisting of clusters of cheap improvised hutments have come up in many of the important towns[7]. Districts like Dhenkanal, Phulabani, Koraput and Ganjam which have extensive forest area close to inhalited area, the use of grass, leaves, reeds or bamboo is extensive as it is easily available and inexpensive. Moreover, these areas are rice-growing areas and thatch is readily avilable. Puri and Cuttack also come into this category.

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7. Ibid pg. 88.

DISTRIBUTION OF SEMI-PUCCA I HOUSE AMONG HOUSEHOLD IN ORISSA. 1981

Table 2.2   PERCENTAGE HOUSEHOLDS

DISTRICT	TOTAL	RURAL	URBAN
1. Sambalpur	37.0	37.9	28.9
2. Sundargarh	53.9	69.4	20.9
3. Kendujhar	22.9	23.6	25.0
4. Mayurbhanj	16.9	16.0	21.9
5. Baleshwar	5.5	5.2	9.1
6. Cuttack	5.8	5.4	9.0
7. Dhenkanal	5.5	5.3	7.3
8. Phulabani	28.5	29.7	10.9
9. Balangir	35.9	35.6	25.9
10. Kalahandi	49.0	50.3	45.3
11. Koraput	16.6	17.6	10.0
12. Ganjam	14.3	14.9	10.5
13. Puri	9.9	10.6	8.6

In the semipucca I category the districts having the highest percentage is Sundargarh (ref table 2.2) followed by Kalhandi, Sambalpur, Balangir and Phulabani. The rest all have below 25 percent of their households having semi-pucca I houses. Some districts have a very low percentage in this category. They are Beleshwar, Cuttack, Dhenkanal and Puri. Except for Dhenkanal, all the others are coastal districts, (ref Map 2).

Here a noticeable factor is that those districts which have a very high proportion of kuthca houses i.e. over 50 percent, have very small percentage of households in semipucca I category. While those district having less kutcha houses, the proportion of semi-pucca I houses is considerbly higher except in the case of Balangir and Phulabani. Sundargarh, Sambalpur and Kalahandi show a much higher proportion of houses in semi-pucca I category than kuthca houses.

· In the rural areas, the observation made earlier, as in case of the district total, is seen that those districts with lower proportion of households having kutcha houses, have more in the semi-pucca I category, namely Sundargarh and Kalahandi. This shows a slight improvement in the quality of housing from district with very high proportion of household having Kutcha houses. The urban areas also show the same relationship between kutcha and semi-pucca I houses.

Kalahandi, Sambalpur, Balangir and Sundargarh have a large proportion of house with tiled roofs, though the floor and walls may be built of mud. The tiles are locally available called 'nariah tiles'. These tiles are less fire= prone than thatch and also cooler. However, tiles are more expensive than thatch and therefore it indicates a better economic condition [8]. The usage of these tiles pushes many households to the category of semipucca I in these districts.

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8. Ibid p. 43.

DISTRIBUTION OF SEMIPUCCA II HOUSES AMONG HOUSEHOLDS IN ORISSA, 1981

Table 2.3   PERCENTAGE HOUSEHOLDS

	DISTRICT	TOTAL	RURAL	URBAN
1.	Sambalpur	19.9	16.2	34.0
2.	Sundargarh	15.6	15.3	18.0
3.	Kendiyhar	10.8	6.6	30.0
4.	Mayurbhauj	3.5	3.4	20.6
5.	Baleshwar,	1.9	1.5	7.6
6.	Cuttack	6.4	4.6	21.6
7.	Dhenkanal	8.0	6.9	19.8
8.	Phulabani	3.7	3.5	16.8
9.	Balangir	16.5	15.9	32.7
10.	Kalahandi	18.0	14.3	28.8
11.	Koraput	6.9	5.8	22.4
12.	Ganjam	13.6	11.4	22.9
13.	Puri	8.8	7.9	16.9

Semipucca II category consists of combination of materials in the making of wall, roof and floor; where at least two out of three parts are pucca. Therefore, they are more durable. In this case, it is usually the floor which is kutcha because it is left to be built till the last, often due to lack of finance. Urban areas have more semi-pucca II houses than the rural areas, mainly becuase the level of affluence is more in

urban areas then rural areas.

Sambalpur district has the highest percentage of households both in the rural and urban areas; followed by Balangir. Sundargarh has the third highest percentage of semi-pucca II houses in its rural areas (ref table 2.3) , but when the percentage in urban areas is taken into account it, is among the last few districts.

The districts with the lowest percentage of households falling its this category in the rural areas are Phulbani, Mayurbhanj and Baleshwar.

In case of urban areas of districts, the lowest are Puri, Phulbani and Baleshwar. Generally in the rural areas the percentage of households having semipucca II houses fall between 5 percent to 15 percent, while in the urban areas it is between 20 percent to 30 percent. Another reason for the predominance of semi-pucca II houses in there areas is that new constructions are constantly being made due to the rush of migrants. Therefore, often metal sheets are used as temporary materials of the roof[9].

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9. Census of India 'Report on Housing and Establishment Orissa, Vol XII, Part IV A '. Controller of Publications. Delhi. 1961. p. 126.

Table 2.4   PERCENTAGE HOUSEHOLDS

	DISTRICT	TOTAL	RURAL	URBAN
1.	Sambalpur	6.0	3.2	25.0
2.	Sundargarh	17.9	4.9	46.4
3.	Kendujhar	5.6	3.9	21.1
4.	Mayurbhanj	2.0	0.9	17.9
5.	Baleshwar	3.9	2.4	21.1
6.	Cuttack	7.8	4.9	37.0
7.	Dhenkanal	6.6	4.2	32.9
8.	Phulabani	3.6	2.0	18.4
9.	Balangir	3.6	3.2	16.4
10.	Kalahandi	6.9	6.6	8.9
11.	Koraput	2.9	0.8	22.1
12.	Ganjam	12.8	10.3	27.8
13.	Puri	12.8	4.9	48.1

None of the districts in the State have more than 15 percent pucca houses except for Sundargarh with 17.9 percent. The districts with less than 5 percent pucca houses are Mayurbhanj, Koraput, Baleshwar, Phulabani and Balangir. While the other districts mostly have over 5 percent pucca houses (Ref Table 2.4)

Pucca houses are obviously at a higher percentage in urban areas of districts. In rural areas of Orissa, however, it is exceptionally low. The highest percentage is in Ganjam

with only 10.3 percent and the lowest is in Koraput with as less as 0.8 percent. Kalahandi has 8.5 percent of pucca houses. The rest of the districts have between 2 percent to 5 percent pucca houses.

In case of urban areas, the range is very high between the districts with the highest and lowest percentage of pucca houses. Puri has the highest proportion (48.1 percent) or pucca houses, while Kalahandi, has the lowest (8.9 percent). Sundergarh has a fairly high proportion (46.4 percent) of pucca houses. The rest of the districts have less than 40 percent of pucca houses in their urban areas. The lowest percentage is found in Phulabani, Mayurbhanj, Balangir and Kalahandi. (less than 20 percent).

Puri and Cuttack have a high percentage of pucca houses in their urban areas not only because they have a large city each, but also because houses made of stone are common here. Stone, which stands for durability, is still preferred in certain areas in preference to brick, when stone is locally available and the cost is less. Stone happens to be the most important material in all the old temples including Jagannath temple of Puri and Lingaraj temple of Bhubaneshwar. Dhenkanal, Cuttack and Sundargarh also have a high proportion of stone-walled houses. The main factor that contributes to the use of stone for walls is easy availibility of stone at cheap prices [10]. Stone is used more in urban than rural ares

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10.   Ibid. Op. Cit. p. 34

of the state. RCC/RBC houses are common in urban areas of districts like Sundergarh, Cuttack and Puri. Sundargarh has the township of Rourkela; and Cuttack is highly urbanised. Therefore the proportion of pucca houses is very high.

CONCLUSION

It is noted that level of urbanization coupled with materials available and climatic conditions play a big role in the distribution of house types in Orissa. Incidence of kutcha houses in obviously more in rural areas than in urban areas due to not only lower economic condition, but also because of lack of industrialisation. Pucca houses are more inn urban areas, but in Orissa this is not very high. They are either in districts where there are large cities or which have industrial towns. In these districts incidence of kutcha houses is also quite high due to migrants. In rural areas semi-pucca I houses and kutcha houses are more, while in urban areas all these categories are more or less equaly divided. Where kutcha houses are less, semi-pucca I houses are usually more.

Pucca houses form a lesser proportion in Orissa, very less in case of rural areas, but fairly low even in urban areas, pointing at the general economic backwardness of the state. The range between districts is also very high in case of percentage of pucca houses.

If a kind of regionalization is attempted for the

districts according to housetypes, we find that districts which have a better housing condition are Sundargarh, Puri, Cuttack and Dhenkanal. But even over here their is a vast difference between rural and urban areas. (ref Maps 2,3 and 4). Ganjam and Sambalpur would fall in the middel category, while the rest of the districts have very poor housing condition. The coastal districts generally seem to have better housing condition. Although their rural areas have very high proportion of kutcha houses. Other reasons coming into play, that is urbanization and industrialization, operate in case of Cuttack and Puri which have a big city each Industrial toownships are found in Sundergarh and Dhankanal.

Thus, on the whole, the housing condition in Orissa is poor except where an effort has been made by the government to bring about improvement, which is also mostly confined to urban areas.

CHAPTER III

QUALITY OF HOUSING AS SEEN

FROM DENSITY OF PERSONS

PER ROOM

One of the measures of finding out about the quality of housing is to see the level of crounding .in the existing housing stock. The number of persons per room is taken here to serve as an indicator of overcrowding in different regions. It not only brings out the adequacy of the existing housing stock, but also indirectly indicates the purchasing power of the people, that is, what type of housing the head of the household can afford.

However, this indicator has several drawbacks. Firstly, without making the size of a room comparable, this indicator may not reflect the reality properly. Secondly porches, verandis and other outdoor spaces are not counted which are often used for living urposes. Thirdly, under certain elimatic conditions, high density might be acceptable and finally the concept of privacy does not take the same meaning in rural areas as in Western societies.

Thus this indicator not without its faults. The trend of developed countries and the more developed of the developing countries shows a reduction of overcroweded housing, but in the less developed of the developing countries, the trend is reverse[1]. The greater the crowding the more is the pressure on basic amenities, and unless the amenities available are excellent, the pressure is even more.

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1. United Nation:- Census for Housing. building and Planning of the Deptt. of Economic and Social Affairs. Review of Human Settlement - A Support Paper for Halital: United Nations Conference on Human Settlements' Pergamon Press, Oxford. 1976 p. 94.

Overcrowding also promotes the spread of diseases and epidemics if the amenities available are not suffricient or upto a certain minimum standard.

As said earlier, this chapter analyses the leve of overcrowding using 1981 census data concerning persons per room. The definition of a room as adopted in the 1981 census is as follows:-

'A room should have four walls with a doorway with a roof overhead and should be wide and long enough for a person to sleep in, that is, it should have a length of not less than 2 methods and a breadth of at least 1 1\2 metres and 2 metres is hieght. A room, however, which is used in common for sleeping, sitting dining, storing and cooking, etc, should be regarded as a room. An unenclosed verandah, kitchen, store, gange, cattleshed ad latrives and rooms in which a household industry such as a handloom is located, which are not normally usable for living on sleeping are excluded from the definition of a living room for the purpose of this question [2].

The definition also takes into account houses which are comical shaped or tents which do not come under strict definition of a room. The rooms which are outside the main house, but are used as sleeping rooms nevertheless are also counted as part of the house.

The impractibility of the definition lies in the fact

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2. Census of India, 'Household Tables - Part VIII A and B
    (ii), Orissa' Controller of Publications Delhi, 1981.
    p. 7.

that actual measurement of room is not possible by the
enumerator. Moreover, the definition does not distinguish
between a one roomed tenement with all modern amenities like
bath, kitchen, store, dining space etc and a small but with
an all-purpose room in which the single room is used for
cooking, storing, living and sleeping. Both are considered
single room households[3].

Despite these limitations, data on number of rooms per
household and number of persons in a household can be used
for the present analysis. The persons per room was divided
into five categories. They are :-

1. Less than one persons per room

2. One or more but less than two persons per sroom

3. Two or more but less than three persons per room

4. Three or more but less than four persons per room

5. Four or more persons per room

PERCENTAGE DISTRIBUTION OF HOUSEHOLD BY NUMBER OF PERSONS PER ROOM BY RURAL AND URBAN ORISSA 1981

On the basis of the classification it is observed that
in Orissa the maximum proportion (28.3 percent) of households
fall in the category of one to two persons per room. This is
followed by the category three to four persons and two to
three persons per room with 21.5 percent and 21.3 percent of
households respectively. The least percentage of households

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4. Census of India 'Housing Report and Tables - Orissa.

    Part IV Series 16' Controller of Publication Delhi 1971

    p. 55.

is found in the category of more than four persons per room. The category with less than one person per room, which is the best situation, has slightly more with 14.9 percent Ref. Table 3.1.

PERCENTAGE OF HOUSEHOLDS BY PERSONS PER ROOM IN ORISSA

	less than 1	1 to2	2 to 3	3 to 4	more than 4
TOTAL	14.9	28.3	21.4	21.6	13.9
RURAL	14.4	28.3	21.6	22.7	12.7
URBAN	19.2	26.7	19.5	20.6	14.0

This in Orissa, room density is mostly concentrated between one to four persons per room. More than two persons per room in a household showes congestion. In Orissa, the percentage of more than four persons per room is also fairly high.

The ranking of the five categories by the distribution of households according to persons per room in urban areas is almost the same as in rural areas. The proportion of households with less than one person per room has, however, increased considerably in comparign to rural areas in urban areas. It therefore suggest lesser congestion for a particular section of the urban population. More than four persons per room also shows an increase bringing out the differences between households of different sections of the population.

DISTRICTWISE DISTRIBUTION OF THE CATEGORIES

TOTAL DISTRICT,   RURAL   &   URBAN   AREAS

Table 3.2. DISTRICT		Persons / Room (percentage Households)				
		< 1	1 to 2	2 to 3	3 to 4	> 4
1. Sambalpur	T	16.7	29.0	20.9	20.6	12.8
	R	18.0	31.6	18.9	19.2	13.3
	U	18.4	26.0	19.4	20.6	15.6
2. Sundargarh	T	13.5	23.0	20.1	24.9	18.5
	R	11.9	22.7	20.8	25.6	18.8
	U	17.0	23.5	23.8	25.1	16.9
3. Kendujhar	T	10.7	23.5	23.8	25.1	16.9
	R	8.4	22.0	20.2	33.4	16.1
	U	18.5	22.8	20.2	21.9	16.7
4. Mayurbhauj	T	10.0	22.8	23.2	25.3	18.8
	R	9.6	22.7	23.4	25.3	19.1
	U	17.4	25.7	19.4	22.7	14.8
5. Baleshwar	T	11.6	26.9	22.6	22.9	16.0
	R	10.9	27.3	22.8	23.9	14.9
	U	16.4	25.4	20.7	21.9	15.7
6. Cuttack	T	17.6	33.5	21.2	19.5	7.5
	R	17.8	34.4	21.5	19.5	6.9
	U	23.0	25.7	19.0	19.8	12.5
7. Dehnkanal	T	17.9	32.5	22.5	19.6	7.5
	R	17.7	32.8	22.7	19.2	7.9
	U	23.5	28.4	20.4	18.0	9.8
8. Phulabani	T	12.6	24.9	20.3	22.7	19.5
	R	12.9	23.9	21.0	22.4	19.7
	U	20.5	26.0	18.3	19.3	15.1
9. Balangir	T	16.0	30.0	21.4	20.7	12.0
	R	15.1	31.0	21.4	20.6	11.8
	U	22.4	28.7	20.1	18.0	10.9
10. Kalahandi	T	10.8	26.8	22.9	24.8	14.7
	R	10.4	25.9	22.9	25.2	15.7
	U	16.3	26.9	22.5	20.8	13.7
11. Koraput	T	11.9	26.0	21.6	23.0	17.5
	R	11.2	26.7	22.2	23.4	16.6
	U	17.7	26.1	20.8	20.2	15.4
12. Ganjam	T	16.4	26.9	21.7	21.3	13.8
	R	15.8	26.6	21.3	21.6	14.8
	U	20.8	28.8	19.9	18.9	11.7
13. Puri	T	18.7	31.5	21.3	18.2	10.4
	R	18.7	32.7	22.8	17.6	8.2
	U	19.4	24.8	19.9	22.2	13.7

PERSONS PER ROOM IN TOTAL HOUSEHOLDS OF ORISSA –1981
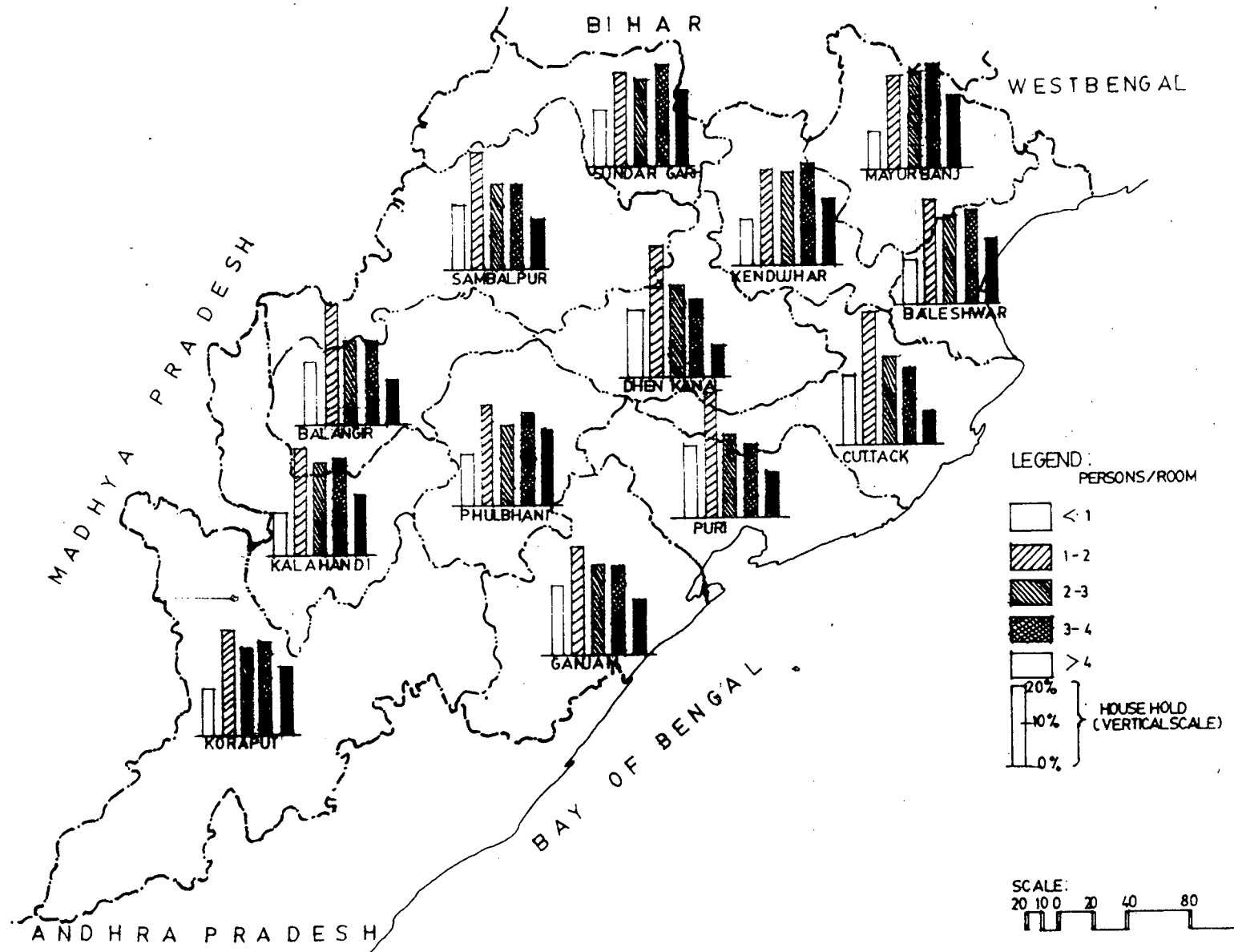
MAP 6

PERSONS PER ROOM IN RURAL HOUSEHOLDS OF ORISSA – 1981

B I H A R

WEST BENGAL

SUNDAR GARH

MAYUR BANJ

SAMBALPUR

KENDHUJHAR

B ALESWAR

M A D H Y A   P R A D E S H

DHENKANAL

BALANGIR

CUTTACK

PHUL BANI

PURI

KALA HANDI

LEGEND

PERSONS / ROOM

	< 1
	1-2
	2-3
	3-4
	> 4

20 %.

10 %. HOUSE HOLD
(VERTICAL SCALE)

0 %.

GANJAM

KORAPUT

B A Y   O F   B E N G A L

SCALE:
20 10 0   20   40   80   100 I

A N D H R A   P R A D E S H
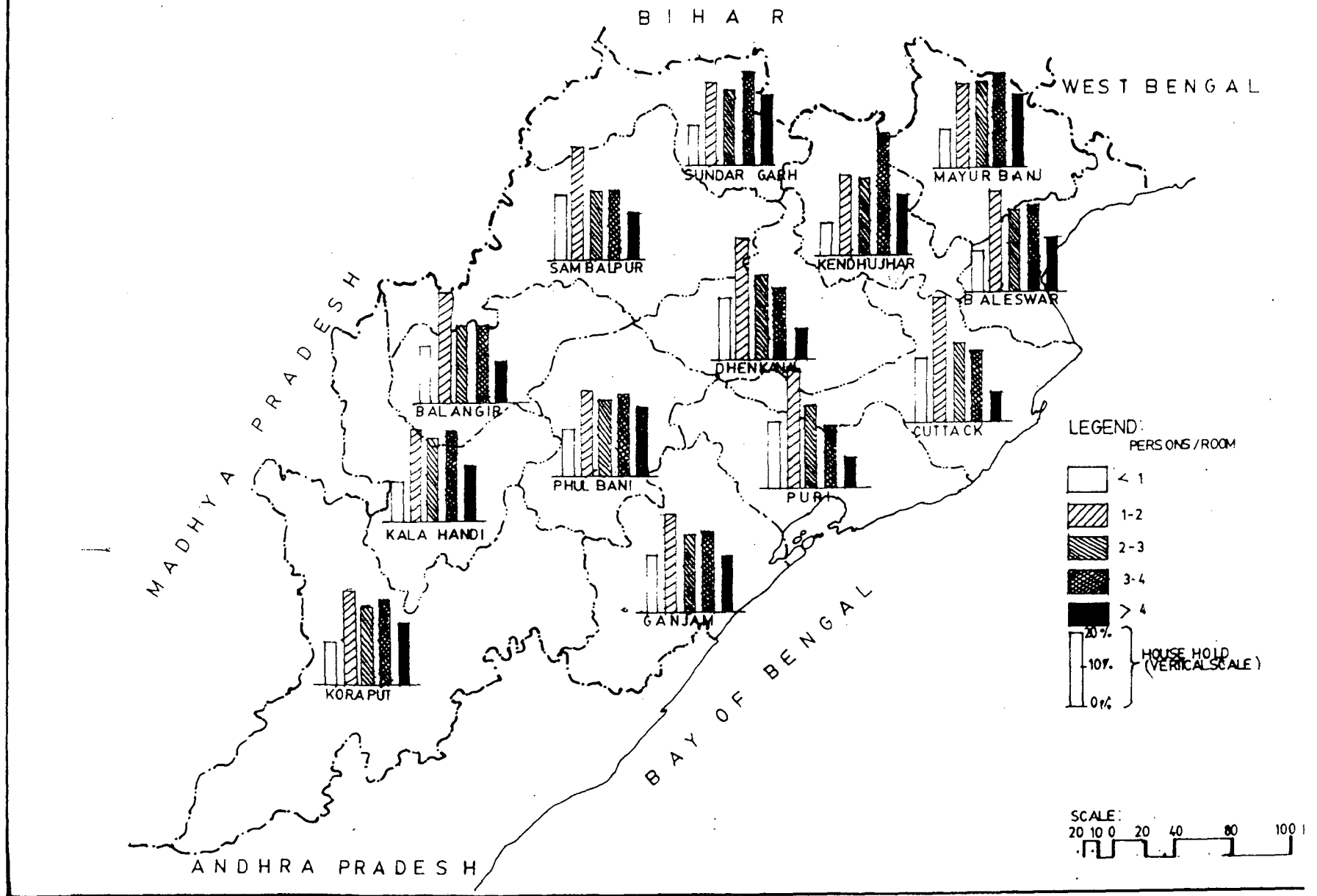
PERSONS PER ROOM IN URBAN HOUSEHOLDS OF ORISSA – 1981

MAP 7

BIHAR

WEST BENGAL

SUNDAR GARH

MAYURBANJ

SAMBAL PUR

KENDUJHAR

BALESHWAR

BALANGIR

DHENKANAL

KALAHANDI

PHULBANI

PURI

CUTTACK

GANJAM

KORAPUT

MADHYA PRADESH

ANDHRA PRADESH

BAY OF BENGAL

LEGEND:
PERSON / ROOM

< 1
1 - 2
2 - 3
3 - 4
> 4

20%
10%
0%

HOUSEHOLD
(VERTICAL SCALE)

SCALE:
20 10 0   20   40   80   100 KM
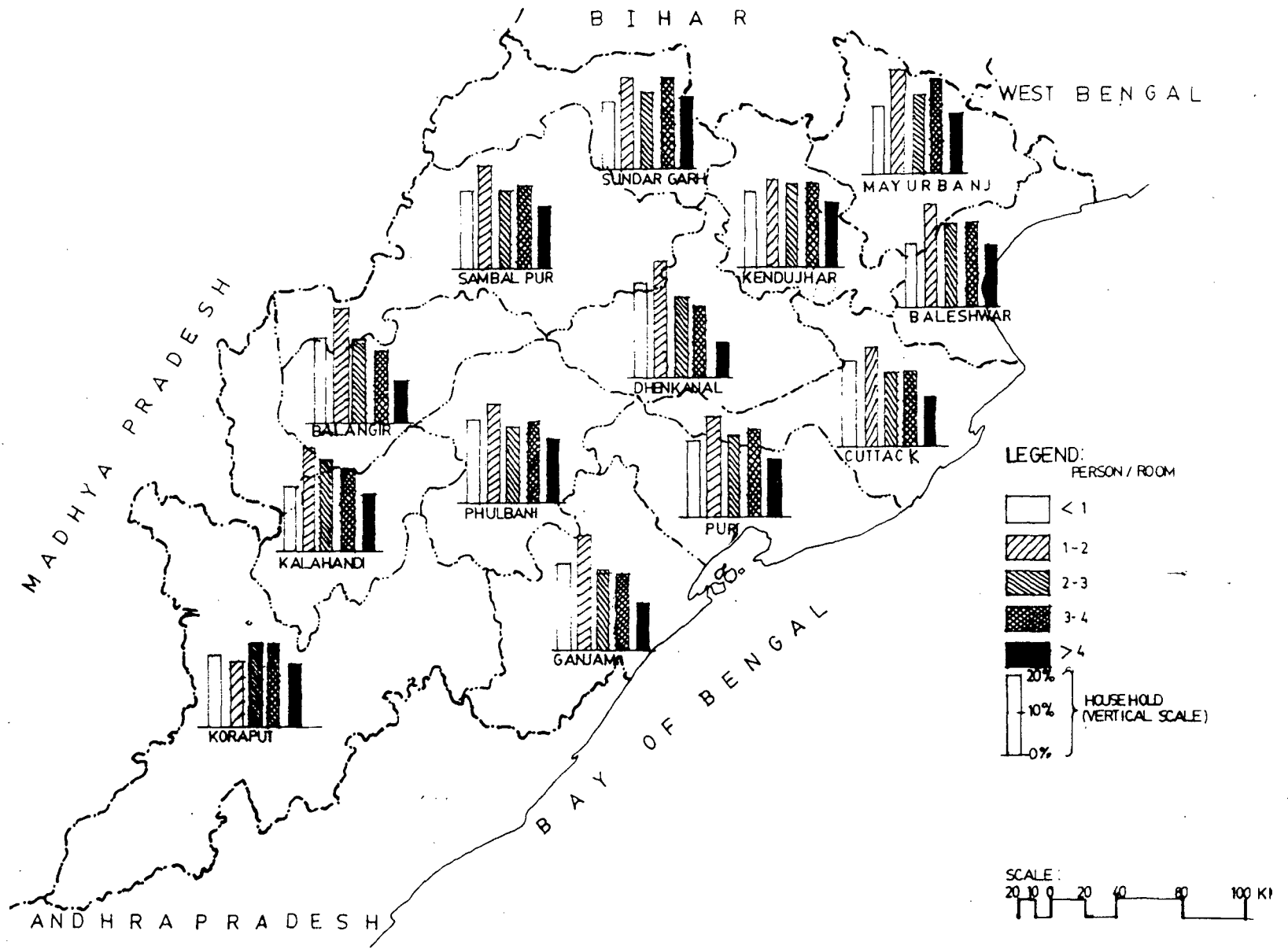
LESS THAN ONE PERSON PER ROOM

In this category the highest percentage of households is in Puri, followed by Dhenkanal, Cuttack, Sarubalpur, Ganjam and Balangir. All these districts have 15 percent of their households in this category. The rest of the districts have less than 15 percent of their households in this category. This least pecentage is found in mayubhauj district with 10 pecent households.

RURAL :- In the rural areas, the maximum percentage of households is seen in Puri district, followed by Samlalpur. The range of percentage of households is from 8.4 percent to 18.7 percent. The districts with over 15 percent of their households in this category are Cuttack, Puri Dhenkanal, Ganjam, Sambalpur and Balangir. Therefsore showing more or less the same pattern as the total district percentages. The lowest percentage of households is found in Kendujhar with 8.4 percent. The rest of the districts have between 10 percent to 15 percent of their households in this category.

URBAN :- the percentage of households is higher than in the rural areas, showing that more households in urba areas can afford beter housing as the population is economically beter off. The highest percentage is in Dhenkanal district. The other districts with more than 20 percent of their households in this category are Ganjam, Balangir, Phulabari and Cuttack. Puri also has a high percentage of households. The rest of the districts have between 15 percent to 19 percent households in this category.

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ONE AND LESS THAN TWO PERSONS PER ROOM

In this category the maximum percentage of households is in Cuttack district with 33.5 percent. The other districts with more than 30 percent of their households in this category are Dhenkanal, Puri and Balangir. Sambalpur is quite close with 29 percent. The districts with households talling between 25 percent 28 percent are Baleshwar, Kalhand;, Korput and Ganjam. The other districts have less than 25 percent of their households in this category.

RURAL:- The range is between 22 percent to 34.4 percent households in this category. The district with the highest percentage of households in Cuttack. Other districts with over 30 percent of their households in this category are Sambalpur, Dhenkanal, Balagir and Puri. The districts with house holds between 25 percent sto 30 percent in this classa are Baleshwar, Kalahandi, Korput and Ganjam. The rest of the districts have between 20 percent to 25 percent of their households in this category.

URBAN:- The district with the highest percentage of households in Ganjam with 28.8 percent. The range is from 21 percent to 28 percent. The lowest percentage of households are in the districts Sundargarh, Kendijhar and Puri with less than 25 percent households.

TWO BUT LESS THAN THREE PERSONS PER ROOM

The highest percentage of households is found in

Kendujhar district with 23.8 percent. All the districts have between 20 percent to 24 percent of their households in this category. The least is in Sundargarh district with 20 percent.

RURAL:- The highest percentage of households is in Mayurbhauj district with 23.4 percent. The range of percentage of households between the districts is small ranging from 20 percent to 24 percent except for Sambalpur district with 18.9 percent of it households in this category.

URBAN :- In the urban areas of the districts the range sof households in this category is between 18 percent and 23 percent. The highest percentage households is found in Kalahandi districts and the lowest percentage is in Phulabari.

THREE BUT LESS THAN FOUR PERSONS PER ROOM

In this category the highest percentage of households is found in Mayurbhauj district with 25.2 percent. The range is fairly big with 18.2 percent to 25.2 percent. The lowest percentage of households are found in the districts of Puri, Dhenkanal, Balangir, Sambalpur and Ganjam ranging from 18 percent to 21 percent.

RURAL:- In the rural areas of the districts, the maximum percentage of households is in Kendijhar district with 33.4 percent. The range here is very large, from 17 percent to 33.4 percent. The lowest percentage of households in this category with less than 20 percent are Puri, Dhenkanal,

Cuttack and Sambalpur. The rest sof the districts fall between 20 percent to 25 percent households in this category. **URBAN** :- In the urban areas the range is between 17.5 percent and 23 percent. The highest percentages is in the district of Puri, Baleshwar, mayurbhuj, Kendijhar and Sundargarh - all above 21 percent.

FOUR AND MORE THAN FOUR PERSONS PER ROOM

The last category has a range of households from 7.5 percent to 19.5 percent. The highest percentage is found in Phulabani and lowest is found Cuttack. The districts with over 15 percent of their households falling in this category are Sundargarh, kendijkar, Mayurbhauj, Baleshwar, Koraput and Phulabari.

RURAL :- The range of households falls between 6.5 percent and 20 percent. The highest percentage are found in Sundargarh, Mayurbhauj, Baleshwar, Koraput and Phulabari.

RURAL :- The range of households fells between 6.5 percent and 20 percent. The highest percentages are found in Sundargarh, Mayurbhauj, Phulbari, Koraput, Kalhandi and Kendijhar, all with more than 15 percent of their households in this category. All the other districts have less than 15 percent under this category. Puri, Dhenkanal and Cuttack have less than 10 percent households in this category.

URBAN :- The range is between 9 percent and 17 percent households in this category. It is,s therfore, higher than the rural areas. The highest percentage of households is in

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Sundargarh district with 17.7 percetn. The districts with more than 15 percent of their households in this category are Sambalpur, Sundargarh, Kendijhar, Baleshwar, Phulabari and Koraput.

CONCLUSION

Talking all the categories together and after studying the districwise distribution of households according to persons per room, one sees that the maximum percentage of households in the rural or urban areas, fall in the category of one to two persons per room. Even for the state as a whole, this category is the largest. This category therefore can be said to be the average size of ersons per room in Orissa.

The category of less than one person per room is more is urban areas. However, the category of more than four persons per room is also, on an average more in the urban areas. Therefore it shows affluence on one hand and poverty on the other. However,s even in the rural areas, the range of households falling in the category of more than four perons per room is also fairly high. But this could be attributed to the fact that in rural areas, a single room is put to a variety of uses, while in the urban areas the preference is for separate rooms for separate purposes unless one cannot afford it.

In the category of one to two persons per room, the rural areas have more households. The other two categories

are more or less equally distributed. One also observes, that in all the categories, the range of households i.e. the percentage of households in each category between districts shows a large range in urban areas than in rural areas. Therefore, the differences in room density between urban areas of districts is more than in rural areas, bringing out inter-district disparities in urban areas. Some urban areas of district being more crowded than other while rural areas have less disparity between districts.

One further observes distinct pattern with respect to the degree of crowding. It is somewhat lower in both urban and rural areas of Puri, Ganjam, Dhenkanal, Balangir and Cuttack & Sambalpura shows less crowding in the rural areas than in the urban areas. Therefore these districts can be said to have better living conditions as far as congestion is concerned. While Puri, Ganjam and Cuttack are coastal districts with large urban centres; Sambalpur, Balangir and Dhenkanal form another region.

The physiography and climate play a role in level of crowding. The level of urbanization also plays a big role in level of crowding. However, in these urban areas the difference between the best situation and the worst situation is not much, showing the existence of both crowding and space for another class of households simultaneously. In the rural areas this is not so. Here the districts which are traditioually backward like Mayurbhanj, Phulbani, Koraput, Kalahandi and Kendujhar have a high rate of congestion.

CHAPTER IV

AVAILABILITY OF BASIC

AMENITIES IN

ORISSA

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Drinking water, toilet facilities and electricity fall among the basic amenities required by man and which are expected to be provided by any society. While electricity, from the point of view of basic needs does not hold much importance, protected drinking water and toilet facilities play a very important role in human life when unclean from the health aspect. Unsafe drinking wter and nuclear toilet facilities and their absence can cause many diseases. In fact, water borne diseases are a common problem in places where these facilities are not adequate or the conditions are not hygienic. These days electricity is also considered a part of basic amenities and all these three components together form a measure for the quality of housing as they are expected to be a part of any dwelling.

Toilet facilities are generally considered unnecessary in rural areas of our country, consequently, households with toilet facilities are negligible. Hence, the census does not provide data on toilet facilities in rural areas.

In this chapter the distribution of these three amenities in Orissa for 1981, districtwise for rural and urban areas is studied. While toilet facilities and electricity are classified according to their availibility and nonavailibility; drinking water is classified into four categories according to its availibility within or outside the premises of the house in protected or unprotected form. Protected includes tubewell/handpump and tap, while

improtected includes well, river/canal tank and other sources.

DRINKING WATER FACILITIES
DISTRIBUTION FOR THE WHOLE STATE

The drinking water facilities are dealt in four categories.

1.   Protected drinking water within premises (PWP)

2.   Protected outside premises (POP)

3.   Unprotectd within premises (UPWP)

4.   Unprotected outside premises (UPOP)

DRINKING WATER FACILITIES FOR ORISSA - 1981

Table 4.1   PERCENTAGE HOUSE HOLDS

ORISSA		PWP.	POP	WPWP	UPOP
	T	17.20	53.3	.57	29.0
	R	13.9	53.7	.64	31.7
	U	40.4	50.1	.22	9.3

In Orissa, the percentage of household with protected drinking water within premises was only 17.2 percent ; in the rural areas this proportion being still lower (13.9 percent), while two - fifths of the households in the urban areas (40.4 percent) were having this facility. Therefore, there is a big difference in the percentage of households served by protected drinking water within premises between rural and

urban areas.

More than half the households (53.3 percent) were served in the state by protected drinking water outside premises. Therfore, it shows that there is provision of safe drinking water supply in one way or the other for the communities on the whole. In rural areas the proportion of households being served by protected drinking water outside premises is 53.7 percent, only .5 percent more than the total for the state. In the urban areas, this proportion was slightly below the state average with 50 percent households falling in this category.

Households with unprotected water within premises is very few. The total state has only .6 percent households. This is because very few households can have the type of water supply sources falling in this category within a house. In the rural areas of the state, the households under this category are .6 percent, while in the urban areas it is .2 percent only. Those who do have drinking water facilities within premises, generally have protected water supply.

Unprotected water outside premises forms quite a high percentage particularly in the rural areas of the state. In the urban areas there are only 9.3 percent house holds with improtected drinking water outside premises. On the whole, in the urban areas the percentage of unprotected drinking water is very low and those who have drinking water within premises generally have protected supply.

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DRINKING WATER FACILITIES

## DISTRICTWISE FOR TOTAL, RURAL AND URBAN AEAS

The districtwise analysis of the distribution of drinking wter facilities is necessary to get an idea of the variations within the state and between rural and urban areas. It brings out wether the supply of safe water is in any way linked with the overall development of the district.

(TABLE OVERLEAF)

Table 4.2 PERCENTAGE DISTRIBUTION OF HOUSEHOLDS
ACCORDING TO THE SOURCE OF DRINKING WATER

	DISTRICT		PWP	POP	UPWP	UPOP
1.	Sambalpur	T	13.5	47.2	.2	39.1
		R	10.1	45.7	.2	44.0
		U	32.1	55.6	.1	12.2
2.	Sundargarh	T	23.9	60.7	.04	15.3
		R	11.8	67.4	.05	20.8
		U	49.1	46.9	.05	4.0
3.	Kendujhar	T	10.5	50.5	.13	38.9
		R	8.7	49.4	.14	41.7
		U	20.7	60.1	.06	19.2
4.	Mayurbhanj	T	11.8	60.5	.06	27.7
		R	10.3	60.7	.06	28.9
		U	36.8	57.6	-	5.6
5.	Baleshwar	T	14.5	62.2	4.1	19.3
		R	12.5	62.6	4.3	20.6
		U	35.3	57.5	1.7	5.6
6.	Cuttack	T	34.7	51.2	.7	13.4
		R	31.9	52.9	.8	14.5
		U	57.3	38.0	.1	4.5
7.	Dehnkanal	T	22.5	58.3	.05	19.2
		R	20.3	56.5	.05	20.2
		U	46.0	45.8	.05	8.2
8.	Phulabani	T	10.2	51.5	.09	38.2
		R	10.1	50.8	.09	39.2
		U	11.0	65.5	.13	23.0
9.	Balangir	T	10.9	40.7	.29	48.1
		R	9.8	39.4	.32	50.4
		U	22.8	53.6	.09	23.6
10.	Kalahandi	T	12.0	37.2	.18	50.6
		R	11.0	35.8	.17	53.1
		U	28.8	61.0	.19	10.1
11.	Koraput	T	6.5	48.9	.10	44.6
		R	4.9	46.9	.15	48.1
		U	27.6	55.8	.05	16.6
12.	Ganjam	T	8.5	61.0	.25	30.3
		R	5.5	61.0	.28	33.3
		U	27.1	61.3	.16	11.5
13.	Puri	T	22.7	60.4	.38	16.5
		R	15.6	65.0	.42	19.0
		U	60.1	36.2	.25	3.5

MAP 3

DISTRIBUTION OF PROTECTED DRINKING WATER AMONG TOTAL HOUSEHOLDS OF ORISSA-1981

BIHAR

WEST BENGAL

SUNDARGARH

MAYURBANJ

SAMBALPUR

KENDUJHAR

BALESWAR

DHENKANAL

BALANGIR

CUTTACK

PHULBANI

KALAHANDI

PURI

MADHYA PRADESH

GANJAM

KORAPUT

BAY OF BENGAL

ANDHRA PRADESH

LEGEND: % HOUSEHOLDS

< 50%

50-60%

60-70%

70-80%

> 80%

SCALE
20 10 0 20 40 80 100 KM
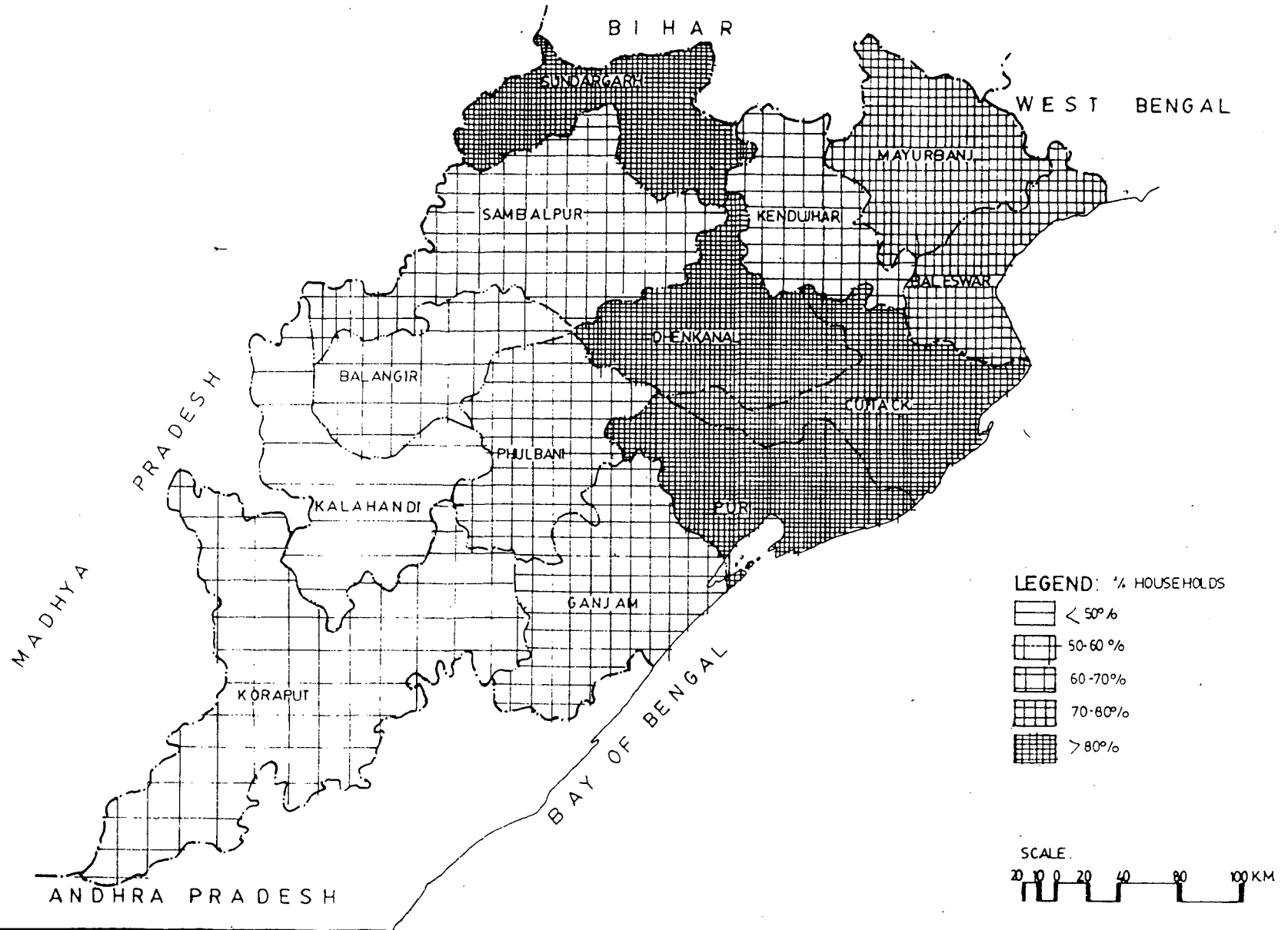
MAP9

DISTRIBUTION OF PROTECTED DRINKING WATER AMONG RURAL HOUSEHOLDS OF OPISSA-1981

BIHAR

WEST BENGAL

SUNDARGARH

SAMBALPUR

KENDUJHAR

MAYURBHANJ

BALESWAR

DHENKANAL

BALANGIR

MADHYA PRADESH

PHULBANI

KALAHANDI

GANJAM

KORAPUT

BAY OF BENGAL

ANDHRA PRADESH

LEGEND:
> 50%
50-60%
60-70%
70-80%
< 80%

SCALE:
20 10 0 20 40 80 100 K.M.
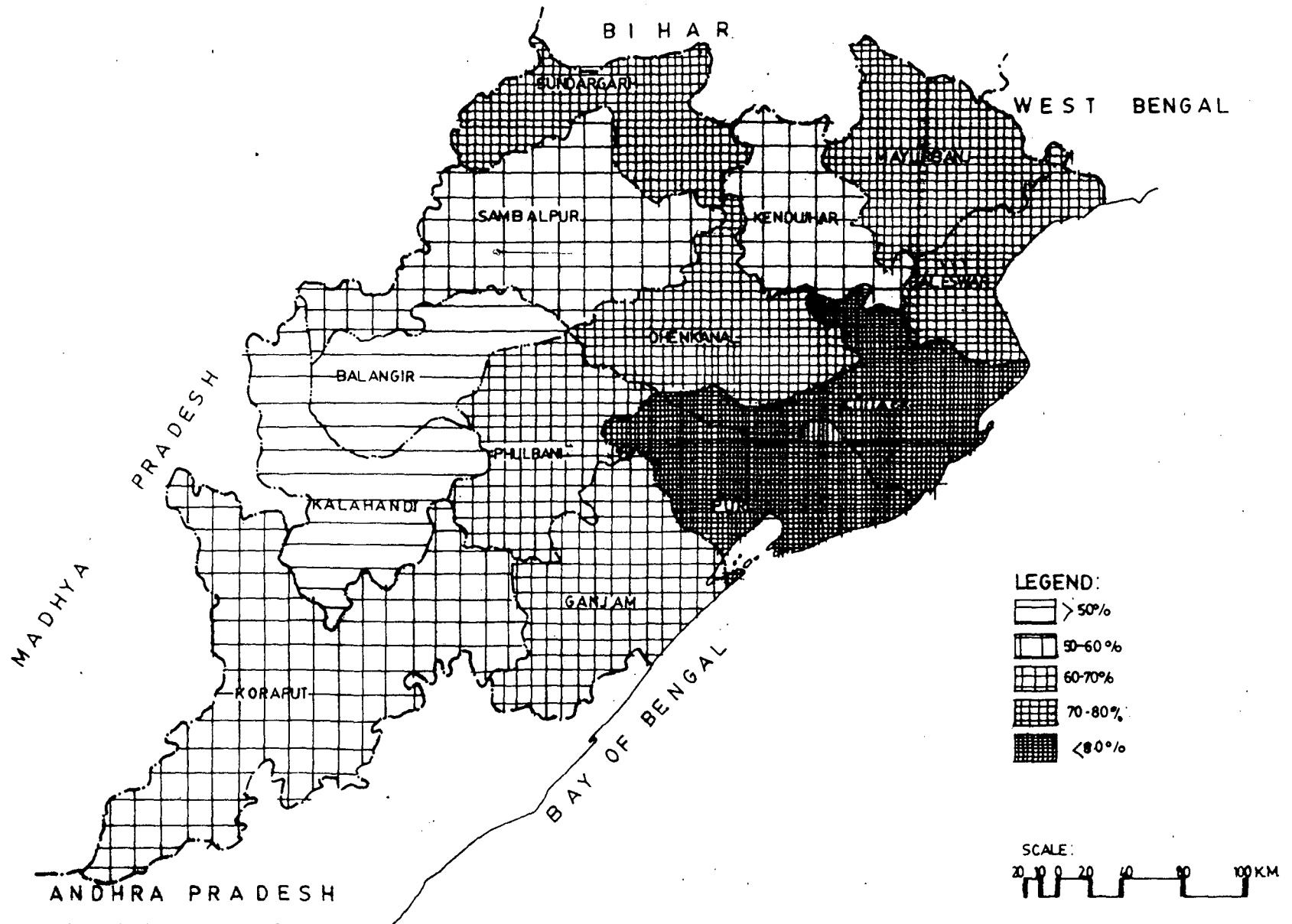
MAP 10.

DISTRIBUTION OF PROTECTED DRINKING WATER AMONG URBAN HOUSEHOLDS, ORISSA-1981

BIHAR

WEST BENGAL

SUNDARGARH

SAMBALPUR

KEONJHAR

MAYURBHANJ

BALANGIR

DHENKANAL

CUTTACK

PURI

KALAHANDI

PHULBANI

GANJAM

KORAPUT

MADHYA PRADESH

ANDHRA PRADESH

BAY OF BENGAL

LEGEND:

% OF HOUSE HOLDS

75-80

80-85

85-90

>90

SCALE:
20 10 0 20 40 60 100 KM
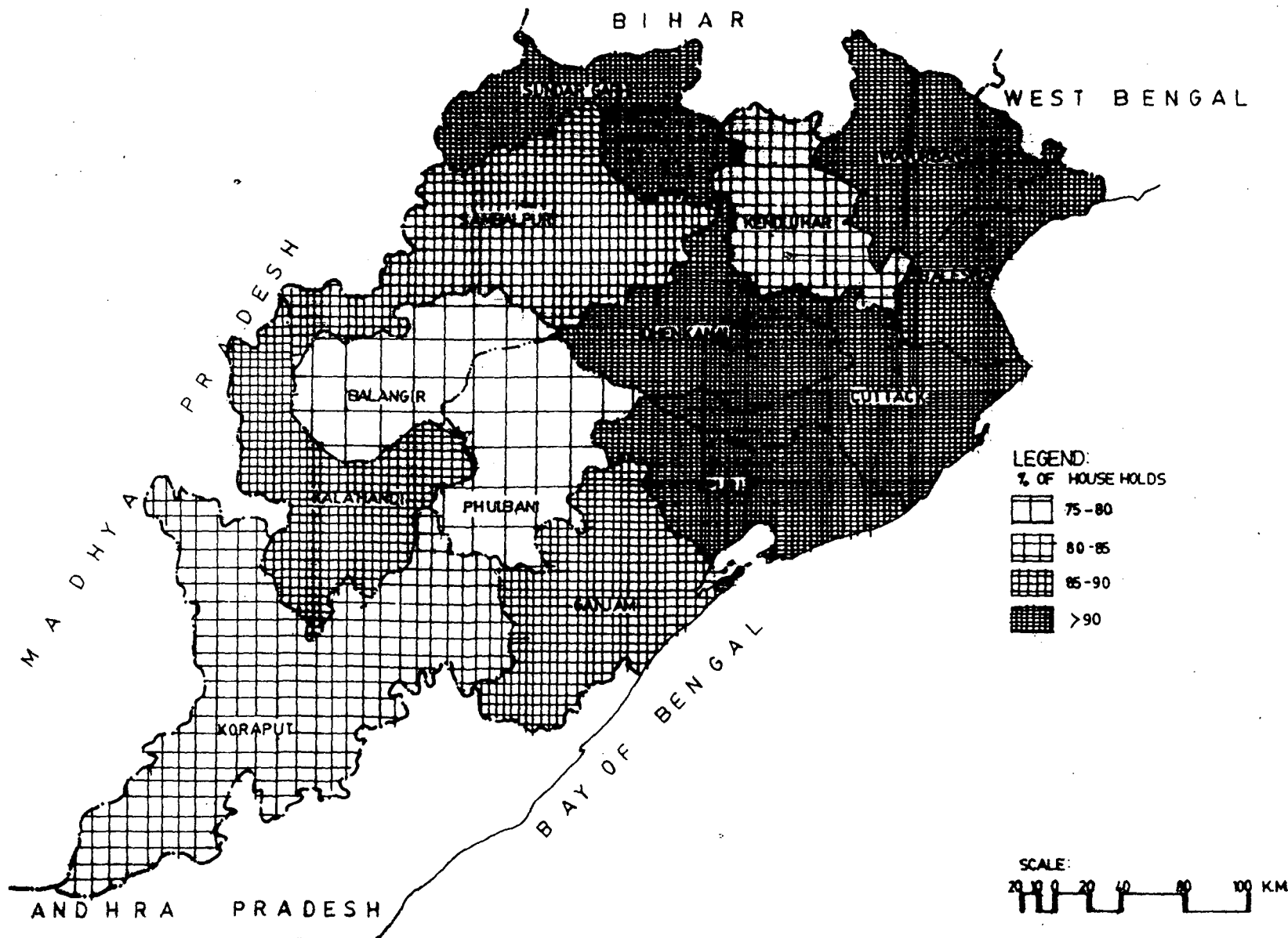
PROTECTED DRINKING WATER WITHIN PREMISES

Cuttack district with one-third of the households had the highest percentage having protected drinking water supply within premises. In contrast, only 6.5 percent of the households in Koraput were served with protected water within premises in 1981. The districts with fairly low proportion of the households in this category, below the state average (ref table 4.1) of 17.2 percent are Sambalpur, Kendiyhar, majurbhauj, Baleshwar, Phulbari, Balangir, Kalahandi and Gangjum. Puri, Dhenkanal, Cuttack and Sundargarh are the only districts where the availibility of protected water supply within premises was somewhat better , that is, well above the state average.

In the rural areas of the state, the range of households in this category is from 4.9 percent to 31.9 percent. The district with the lowest percentage of households is Koraput, while Cuttack has the highest proportion of hoursholds (31.9 percent) in this category. As one would expect, the proportion of households in rural areas being served with protected water within premises is very low. It is only in Puri, Dhenkanal and Cuttack that a higher proportion of rural households than the average for the state were having protected water supply within premises. In all the other districts this proportion was less than 14 percent.

In the urban areas this situation is much beteer than the rural areas. In most districts the difference between

the rural and urban in percentage of households served with protected water within premises is almost three to four folds. The range is from 10.9 percent in Phulabani district to 60 percent in Puri district. Phulabani has shown an unsually low percentage with only .9 percent more households in this category in urban areas against that in the rural areas. Moreover, evens in an inter-district comparisn, the district with the second lowest percentage of households in this category (Kendujhar) shows a much higher percentage (20.7 percent). The district with over 50 percent of their households in urban areas having protected water supply within premises are Puri and Cuttack. Sundargarh and Dhenkanal follow closely with 49 percent and 46 percent households respectively. Thus the districts which have a high percentage of households in this category in the urban areas, generally seem to have a higher percentage, as compared to the other districts, in their rural areas as well.

PROTECTED DRINKING WATER OUTSIDE PREMISES

In this category it is the taps or handpumps or tubewell which are taken into consideration. It was indicated earlier that the state average for this category was very high (53.3 percent). In case of the districts as well, in most cases, it is over 50 percent. The exceptions are Koraput, Kalahandi, Balangir and Sambalpur, Kalahandi with 37.2 percent had the lowest proportion of households,

while Baleshwar with 62.2 percent had the highest. Therefore, the range betweesn the lowest and the highest is fairly big.

In the rural areas, the highest proportion of household is found in Sundargarh district with 67.4 percent. The district with the lowest percentage is Kalahandi (35.7 percent). The other districts with less than 50 percent of their households having protected water supply outside premises are Sambalpur, Kendijhar, Balangir and Koraput. All these districts have low percentage of households even in the first category i.e. protected drinking water within premises. It is noteworthy that these districts are in the plateau area of the state and are largely inhabited by the tribals. These are also the drought prone districts. It seems they do not have much subsoil water. In any case, the people in these districts have not recieved the fruits of development activities in this respect to any substantial extent.

In the urban areas of the districts the range of households in this category is from 36.2 percent in Puri to 65.5 percent in Phulabani. Cuttack also shows a low percentage with only 38 percent of its households being served by protected drinking water outside premises. However, in both these districts the percentage of households having protected water within premises is high. Most of the districts have 50 percent or more of their urban households in this category. The exceptions are Sundargarh,m Dhenkanal, Cuttack and Puri. Thus, this category forms a very high

percentage of households in the districts both in the rural and urban areas, though in the rural areas it is not as high as the state rural percentage in al the districts.

If one takes the availibility of protected water supply, within the premises, or outside, more than 90 percent of the household in the urban areas of Sundargarh, Mayurbhanj, Baleshwar, Cuttck, Dhenkanal and Puri are covered.

UNPROTECTED WITHIN PREMISES

Unprotected drinking water within premises forms a very small percentage with almost all the districts of the state. The percentgage of households falling in this category being less than one percent in most cases. The only exception is Baleshwar where 4.1 percent households fell in this category.

Baleshwar is the only district having slightly higher percentage of households in this category in its rural areas. The percentage is 4.3 percent. The other districts all have less than one percent in this category in their rural areas.

In case of the urban areas of the districts also the same situation is seen, the exception being Baleshwar. Wherever water is avilable within premises, it is protected.

UNPROTECTED OUTSIDE PREMISES

This category accounts for a fairly large proportion of households in the total and rural areas of the state. Kalahandi had the highest proportion of households in this

category (50.6 percent). In contrast Cuttack had the lowest proportion of households in this category (13.3 percent). This category actually forms the total percentage of households with unprotected water supply as the category of unprotected water within premises is almost negligible in all the districts except Baleshwar. The main sources of water in this case are ponds, canals and river. The districts which have a higher percentage of households in this category than that of the state total are Sambalpur, Phulabani, Balangir, Kalahandi, Koraput and Ganjam.

In the rural areas the percentage of households having unprotected water outside premises in obviously more. It is as high as 53 percent in Kalahandi, while it was only 14.5 percent in Cuttack district. The other districts with a lower percentage of households than the state average for rural areas are Puri, Dhenkanal, Baleshwar, Mayurbhanj and Sundargarh.

In urban areas of the districts, as expected, this percentage is quite low. Though for the state urban areas this percentage is not very high (only 9.3 percent, in some districts - Sambalpur, Kendujhar, Phulabani, Balangir, Kalahandi, Koraput and Ganjam - it forms a fairly large percentage. Balangir with 23.6 percent had the highest proportion of households in this category. The lowest percentage of households with unprotected water outside premises was in Puri (3.5 percent).

Thus in Orissa, one sees that protected drinking water,

weather within or outise the premises, was available to most of the households in most districts in 1981, Though some districts have quite a high percentage of households who have only unprotected water supply outside premises. This category has the second largest percentage of household under it. The largest percentage of households in most districts is in the category of protected water outside premises. The exceptions are the rural areas of Balangir district where the percentage of households having unprotected water outside premises is more than protected water outisde premises. Kendijhar and Karaput districts also fall into this category.

On the whole, protected water supply is more in the urban areas wether it is inside or outside the premises. Unprotected water supply is more in the rural areas and mostly outside premises. The percentage of households having unprotected water within premises is negligible in all the districts. The districts which can be considered better off in terms of drinking water facilities are Puri, Cuttack Dhenkanal and Sundargarh. Except Sundargarh, these districts are coastal districts and do not experience any water problem. Besides, all these districts have either a major urban centre or have developed industrially. Puri and Cuttack have the best facilities in terms of drinking water. The districts with the worst facilities are Koraput, Kalahandi, Balangir and Kendujhar with large percentage of households having unprotected water supply. The rural areas on the whole are worse off.

Another point observed is that wherever water is available within the premises, it is protected. Unprotected water is mostly obtained from outside.

TOILET FACILITIES AMONG HOUSEHOLDS IN ORISSA

The data available for toilet facilities is only for the urban areas. Therefore, the rural areas are not dealt with. The following table given the distribution of urban household according to the availibility or nonavalbility of toilet facilities.

Table 4.3 PERCENTAGE DISTRIBUTION OF HOUSEHOLDS IN URBAN
AREAS OF ORISSA BY AVAILIBILITY OF TOILET FACILITIES

	DISTRICT	PERCENTAGE HOUSEHOLDS
ORISSA		41.9
1.	Sambalpur	37.5
2.	Sundargarh	51.5
3.	Kendujhar	30.5
4.	Mayubhanj	37.8
5.	Baleshwar	31.2
6.	Cuttack	47.6
7.	Dhenkanal	44.2
8.	Phulabani	29.7
9.	Balangir	29.8
10.	Kalahandi	30.6
11.	Koraput	34.6
12.	Ganjam	35.1
13.	Puri	56.1

MAP 12.

AVAILABILITY OF TOILET FACILITIES TO URBAN HOUSEHOLDS OF ORISSA – 1981

BIHAR

WEST BENGAL

SUNDARGARH

MAYURBHANJ

SAMBALPUR

KENDUJHAR

BALESWAR

DHENKANAL

BALANGIR

CUTTACK

PRADESH

PHULBANI

KALAHANDI

PURI

MADHYA

GANJAM

BAY OF BENGAL

KORAPUT

ANDHRA PRADESH

LEGEND: % OF HOUSES

	25–30%
	30–35%
	35–40%
	40–45%
	> 45%

SCALE.

20 10 0   20   40   80
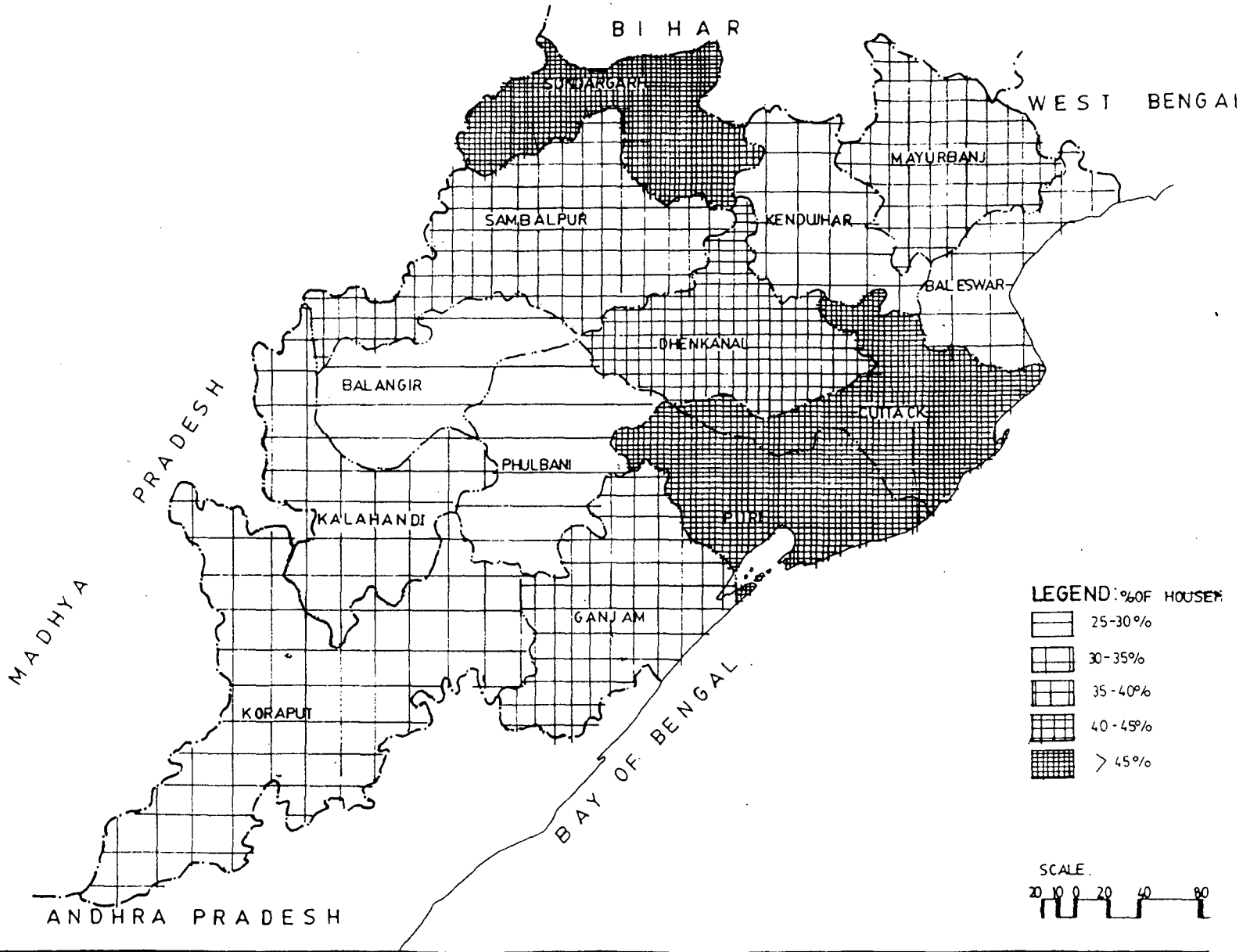
Less than 50 percent of the urban households in Orissa, except in Sundargarh and Puri districts could have toilet facilities within premises. However, even in these two districts the proportion is not much above 50 percent. In Puri 56.1 percent households had toilet facilities in 1981 while in Sundargarh 51.5 percent of the households had toilet facilities. The district with the lowest percentage of households having toilet facilities are Phulabani and Balangir with 29.7 percent each. Most of the districts have even less households with toilets facilities than the state total of 41.9 percent. The exceptions are Puri, Sundargarh, Cuttack and Dhenkanal. Thus one sees a relation between the availibility of protected water supply and toilet facilities. Those districts which are beeter of in terms of drinking water facilities are also better off in terms of toilet facilities, though even then it does not form a very high percentage.

AVAILIBILITY OF ELECTRICITY

Table   4.4   PERCENTAGE HOUSEHOLDS IN ORISSA HAVING
                                ELECTRICITY - 1981

ORISSA	T	17.8
	R	13.0
	U	51.7

The   proportion of households in Orissa having electricity in their house is very low (ref table 4.4).   In

rural areas this proportion is even lesser, while in urban areas, slightly more than 50 percent of the households have electricity.

In respect of availibility of electricity to urban households, one can say that the situation is somewhat better than the availibility of toilet facilities, even though toilet facilities are more important as their non-availibility or availibility in unhygienic manner can lead to a number of diseases and epidemics. In the rural areas the situation is very bad with only 13 percent of the households having electricity.

DISTRICTWISE DISTRIBUTION OF HOUSEHOLDS HAVING ELECFTRICITY ORISSA - 1981

Table 4.5

PERCENTAGE HOUSEHOLDS

	DISTRICT	TOTAL	RURAL	URBAN
1.	Sambalpur	22.2	18.2	44.1
2.	Sundargarh	25.7	11.8	54.3
3.	Kendujhar	10.6	7.1	35.5
4.	Mayubhanj	11.6	9.2	54.4
5.	Baleshwar	14.7	12.0	43.3
6.	Cuttack	23.5	19.2	57.3
7.	Dhenkanal	15.0	11.6	52.8
8.	Phulabani	7.0	5.8	39.7
9.	Balangir	14.0	11.3	41.8
10.	Kalahandi	4.5	2.4	40.3
11.	Koraput	11.5	6.9	48.0
12.	Ganjam	16.6	11.8	46.0
13.	Puri	31.3	23.7	71.5

AVAILABILITY OF ELECTRICITY AMONG HOUSEHOLDS OF ORISSA — 1981
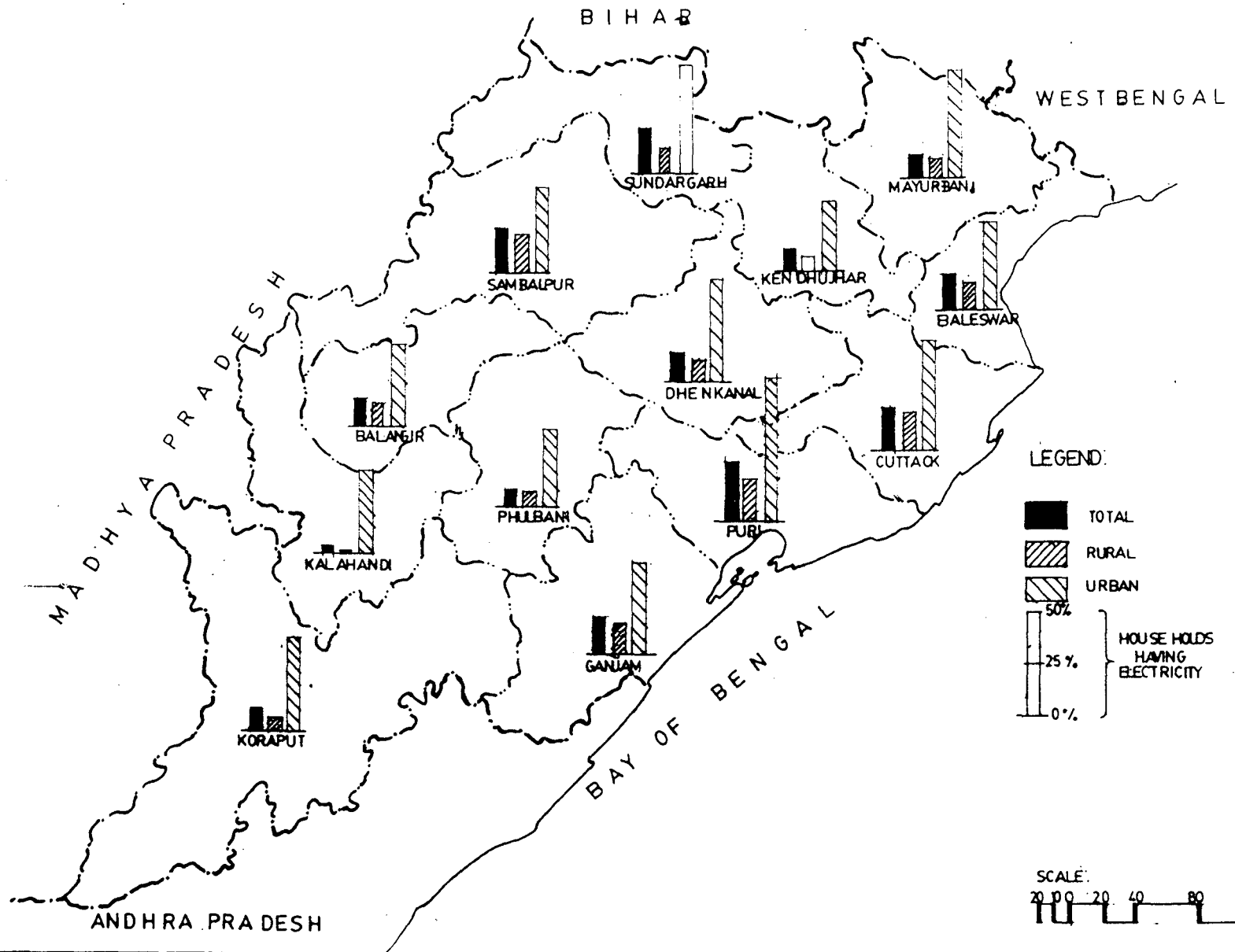
The districts with the highest proportion of households with electricity is Puri (Table 4.5). The other districts with a fairly high percentage i.e. more than the state average of 17.8 percent, are Sambalpur, Sundargarh and Cuttack. The rest of the districts all have lower than the state average. In contrast only 4.5 percent of the households in Kalahandi could enjoy the advantages of having electricity in 1981.

In the rural areas of the districts, the percentage of households with electricity is even lower. Only 2.4 percent of the households in Kalahandi had electricity. Five districts, namely Kalahandi, Kendujhar, Mayurbhanj, Phulabani and Koraput had less than ten percent of their households having electricity (ref Table 4.5).

All these districts are largely tribal districts. This implies that little effort has been made in Orissa to take electricity to areas, particularly to tribal areas, a situation which need to be corrected at the earliest.

In the rural areas of only three districts had more than 18 percent of their households served with electricity. These are Sambalpur, Cuttack and Puri. Puri has the highest percentage of households (23.7 percent) served with electricity (Table 4.5).

In the urban areas of the districts the percentage is higher, but in most districts not even fifty percent of the households have electricity. The districts with more than fifty percent households having electricity in their urban

areas are Sundargarh, Mayurbhanj, Cuttack, Dhenkanal and
Puri. All these districts have between 50 to 60 percent of
their households with electricity, except Puri which has 71.4
percent of its urban households with electicity. The
districts with the lowest percentage of households with
electricity in its urban areas is Kendujhar with 35.4
percent. Thus the disparity between districts is very vast.

CONCLUSION

In conclusion, one can say that the amenities available
in Orissa form a distinct pattern in terms of their
distribution. The districts which have a large percentage of
households being served with one amenity, generally are
served by all the other amenities. The districts which stand
out in this respect are Puri, Cuttack, Dhenkanal and
Sundargarh, while out of this Puri is best served. However,
even in these districts, it is namely the urban areas which
are better served. Therefore, there is a distinct link
between urbanization and the amenities available. Puri and
Cuttack both have large urban centres, which Sundargarh has
the large industrial towns of Rourkela. Dhenkanal also has
industrial townships like Talcher Thermal Power Station
township, Dera Colliery township, Fertilizer Corporation of
India township and Rengali Dam township. Sambalpur has also
quite a high percentage of households with electricity (ref
table 4.5), as compared to the rest of the states. This is
because of the Himakud Dam project within the district.

Another point noticed is that districts in the plateau areas like Koraput, Kendujhar and Kalahandi generally are backward, while coastal districts like Ganjam, Puri and Cuttack are developed. Other districts are developed only due to deliberate government policy.

While protected water is available to a large extent in both rural and urban areas of the districts (though mostly outside premises), toilet facilities and electricity availability is very less. The lack of toilet facilities even in the urban areas may be because in India, toilet facilities are still not given much importance. This is proved amply by the fact that in rural areas this is almost negligible. Moreover, a lot of people cannot afford toilet facilities. Electricity is also available to very few households. Some of the most backward districts in terms of amenities can be said to be Koraput, Sambalpur, Balangir, Phulabani and Kalahandi, though the other districts are also not very much better off.

In Orissa, therefore, the physiological regions to a large extent, play an important role in the distribution of amenities. This coupled with urbanization and industrialization in only selected districts increases the disparities. Therefore a concerted effort is needed to provide basic amenities to the households and this is especially in the rural areas.

CHAPTER V

ANALYSIS OF INDEX ON

HOUSING CONDITIONS

&

CONCLUSION

The analysis of the data in the previous chapter on housing conditions and the amenities available to the households of Orissa in 1981 brings out several inter-district and intra-district differences. The inter - district differences have been analysed in terms of rural and urban areas of the district. The anaysis shows that the condition of housing and the amenities available in Orissa are unevenly distributed. While urban areas are in all cases better served than the rural areas, between districts also large differences exist. To enable one to study these differences, better, an index for housing condition and the amenities available has been constructed. It is a composite index which takes into consideration all the indicators together. While individual indicators may show different distribution, the comsposite index gives an overall idea of the level of housing conditions in Orissa. The higher the index, the higher is the level of housing conditions in that district. The method by which the index has been found and worked out has been discussed in the first chapter.

Following is the composite index for each district of Orissa for the rural and urban areas.

Table 5.1   COMPOSITE INDEX ON HOUSING CONDITIONS IN ORRISSA
1981

	DISTRICT	RURAL	URBAN
	ORISSA	1548.2	3307.6
1.	Sambalpur	1693.2	3056.5
2.	Sundargarh	1313.8	3056.5
3.	Kendujhar	1313.8	2640.7
4.	Mayubhanj	1361.9	3169.8
5.	Baleshwar	1450.8	2785.8
6.	Cuttack	1787.1	3613.8
7.	Dhenkanal	1547.1	3386.9
8.	Phulabani	1285.9	2571.9
9.	Balangir	1481.3	2720.7
10.	Kalahandi	1331.0	2745.0
11.	Koraput	1224.1	2936.3
12.	Ganjam	1558.5	3026.3
13.	Puri	1866.3	4104.9

After studying the composite index it is observed   that
there   is a large difference between the index of   the   rural
and   urban   areas of Orissa.   The state urban index   is   more
than   two times the state rural index.   Among the   districts,
the   rural   areas index ranges between 1224   and   1866.   The
urban areas show a much wider   range in the composite index,
ranging from 2571 to 4105.   Therefore, the urban areas show a
level of housing conditions two to four times higher than the
rural   areas.   Moreover, the range of   index   between   rural
areas   of districts is not very wide, while among   the   urban

MAP 13.

COMPOSITE INDEX OF HOUSING CONDITIONS AND AMENITIES AVAILABLE IN ORISSA-
(IN RURAL AREAS)

BIHAR

WEST BENGA

SUNDARGARH

MAYURBANJ

SAMBALPUR

KENDUJHAR

BALESWAR

DHENKANAL

BALANGIR

CUTTACK

PRADESH

PHULBANI

KALAHANDI

PURI

GANJAM

MADHYA

KORAPUT

BAY OF BENGAL

ANDHRA PRADESH

LEGEND : COMPOSITE IN[

| | 1200-1300 |
| 1300-1400 |
| 1400-1500 |
| 1500-1600 |
| >1600 |

SCALE.
20 10 0 20 40 80
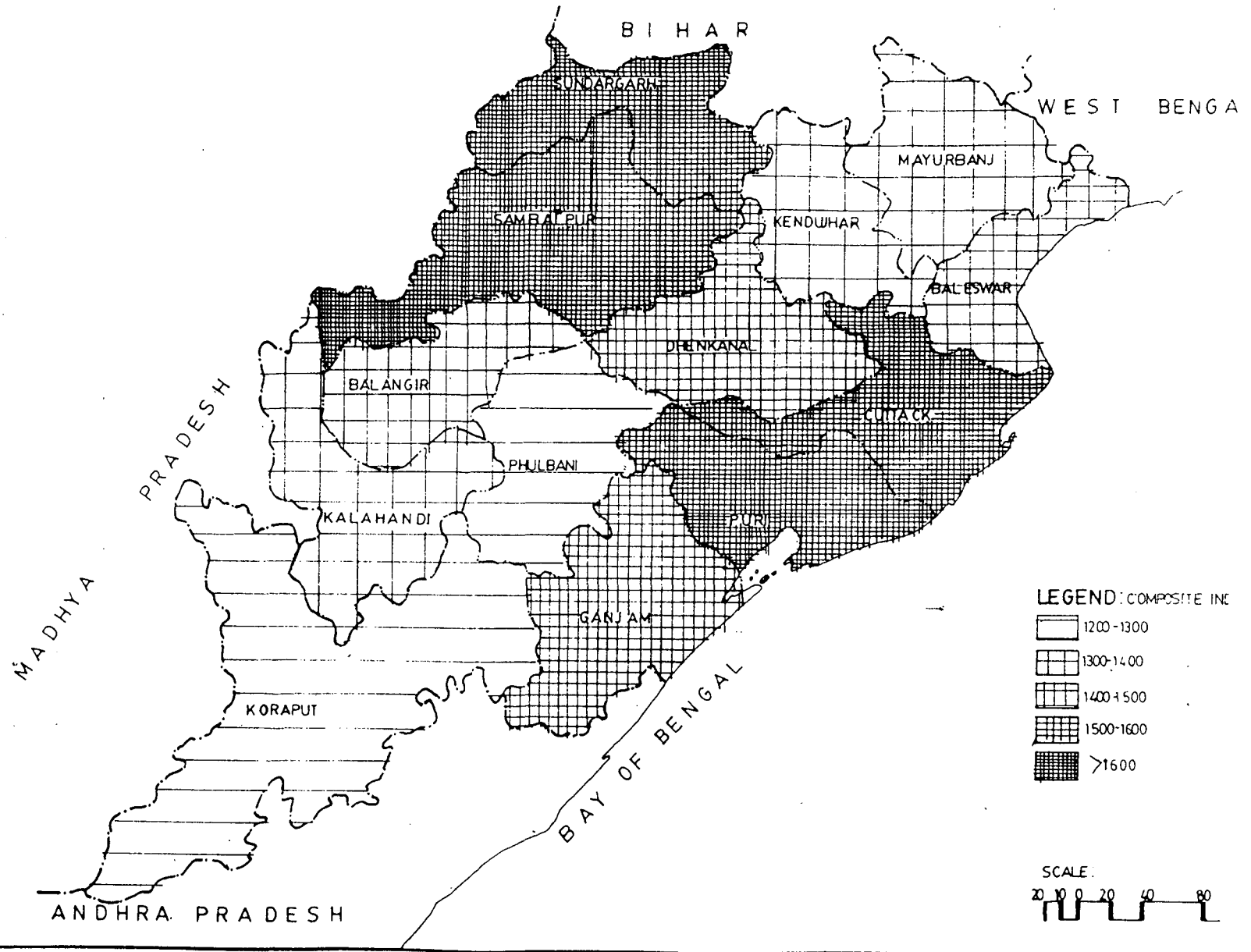
MAP 14·

COMPOSITE INDEX OF HOUSING CONDITIONS AND AMENITIES AVAILABLE IN ORISSA -1981
(IN URBAN AREAS)

BIHAR

WEST BENGAL

SUNDARGARH

MAYURBANJ

SAMBALPUR

KENDUHAR

BALESWAR

DHENKANAL

BALANGIR

CUTTACK

PRADESH

PHULBANI

PURI

KALAHANDI

MADHYA

GANJAM

KORAPUT

BAY OF BENGAL

LEGEND: COMPOSITE INDEX

2500- 3000

3000-3500

3500-4000

> 4000

SCALE
20 10 0 20 40 80 100 KM

ANDHRA PRADESH
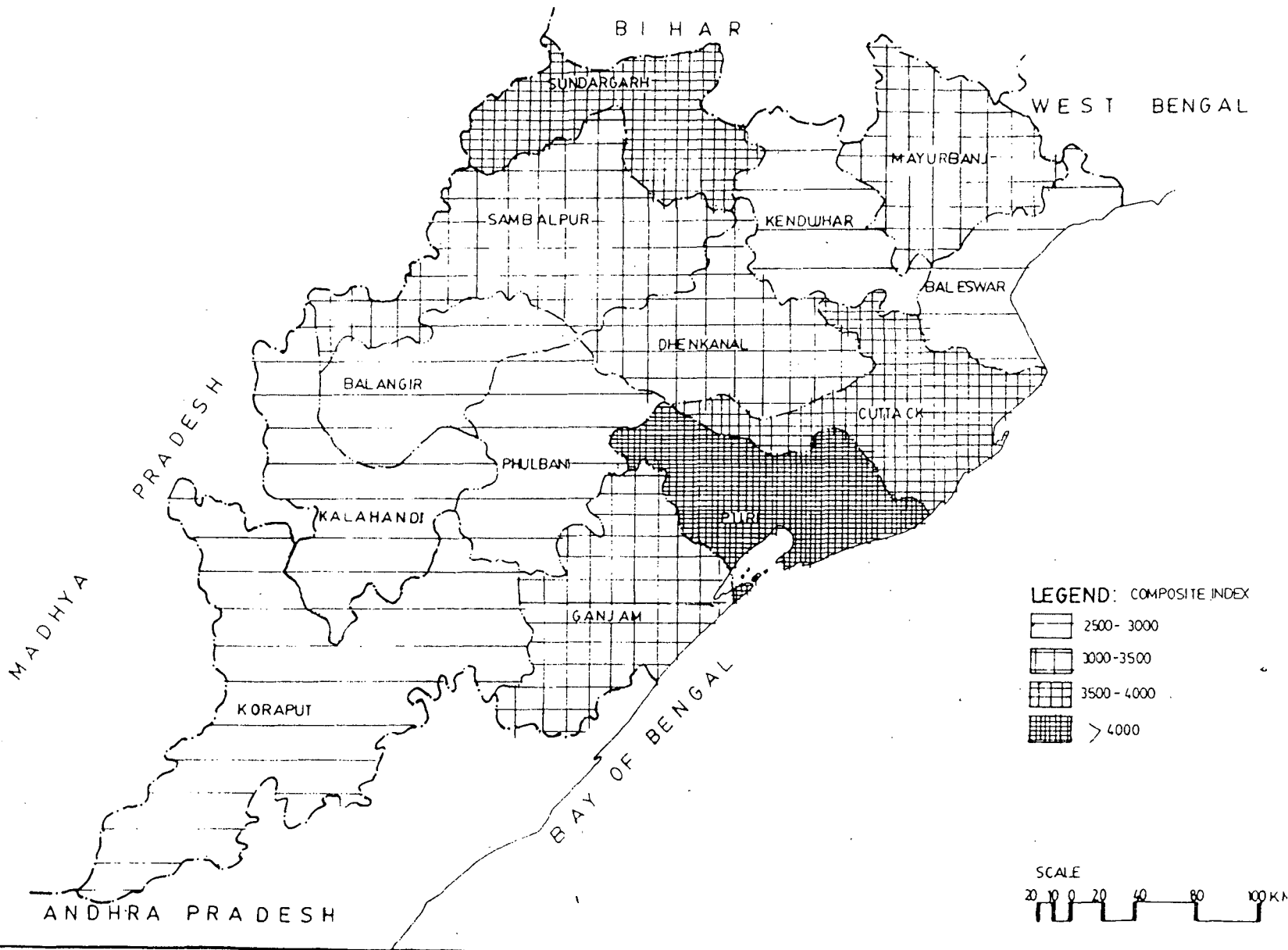
areas, the district which has the highest index is almost twice the index of the district with the lowest. In the urban areas, maximum number of districts fall below the composite index of 3500. Only three districts have composite index higher than 3500. Therfore, between the urban areas of the districts, distribution of housing conditions and amenities are much more uneven than in the rural areas. The rural areas though in a poorer condition as compared to the urban areas, have less inter-distict differences and therefore, more even distribution of housing conditions and amenities is available to the households.

Going on to the districts, one finds that Puri, Cuttack, and Sundargarh have a high index in both rural and urban areas and especially so in the urban areas. While Puri has the highest composite index among all the districts for both its rural and urban areas. Cuttack has the second highest index among the districts in its rural areas but has third highest in its urban areas. Sundargarh has third highest index among the districts in rural aareas and second highest index among the urban areas.

Rural Koraput has the lowest composite index followed by Phulabani. While Phulabari has the lowest composite index in both rural and urban areas, Koraput is eighth from the top among the districts in its urban areas.

Severally, what is observed is that in the case of all the districts, the urban areas are much more developed than the rural areas. Moreover in those districts which have

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highly developed urban areas as compared to the other districts, the difference in the composite index between rural and urban is much more than in districts where urban areas show a low index. The latter districts are underdeveloped in both their rural and urban areas, while the former districts have underdeveloped rural areas. Therefore the condition of housing and the ameniteis available to the households is high only in pockets confined to the urban areas. Large parts of the state are underdeveloped, much of the urban areas and all of the rural areas.

The difference in the conditions of housing and the distribution of amenities between the coastal districts :- and the plateau districts is reflected in the index as well, showing that the plateau regions are backward in all respects of housing.

DRAWBACKS OF THE STUDY

1. There is no uniform definition of the terms like 'Kutcha' 'pucca' etc which have been used as indicators. Therefore, one had to depend on ones own reasoning for the definations.

2. The data for the study were drawn only from the census of India, 1981, which often do not tally with the information given by other sources. However, to make the study more clear cut, only census data were used.

3. It would have helped if a correlation between the level

of urbaniation and the other factors given as reasons forthe housing conditions could have been worked out with the index, but this was also beyond the scope of this study.

However despite all these drawbacks, a conclusion has been reached, which is as follows.

CONCLUSION

As stated in the objectives of this study, only the qualitative aspect of housing in Orissa is taken into account. An attempt is made to study the distributions of the indicators and to discern a regional pattern, if any ; the reasons for this pattern and the relationship between the composite index.

Taking all this into account and keeping the composite index in mind, one can say that Orissa can be counted among the backward states in terms of the quality of housing. The rural-urban divide in very wide and while the rural areas are alamost uniformly backward, the urban areas in a few districts are developed, while most are backward.

There is a distinct relationship between the distribution of indicators. The districts which do not have one amenity, generally will not have any other amenities. For example, districts like Koraput, Kalahandi, Phulabani, Kendujhar and Balangir which have a high percentage of houses in kutcha and semi-pucca I category, have also got more crowded rooms and are poor in terms of the availibility of amenities. In contrasts, the richer districts like Puri,

Cuttack, Sundargarh, Dhankanal and Ganjam, even though they have large percentage of kutcha houses, also have a fairly high percentage of pucca houses, and are better served by amenities and also have a sizeatle proportion of households which can afford large houses. However, in these districts, in this urban areas, a divided within the population observed in housing quality.

One also observed the existence of a type of regionalization in the distribution of housing quality. Puri, Cuttack, Sundargarh, Ganjam and Dhenkanal can be considered districts, with better quality of housing. Sambalpur, Balangir, Baleshwar and Mayurbhanj fall into the middle category. While Kalahandi, Kendujhar, Phulbani and Koraput are among the poorest districts. The regionalization coincides with the level of urbanization and industrialization, as well as, climate and topographical factors. Besides the coastal districts (ref Map), the districts which have developed have done so due to deliberate government intervention at industrialization.

Thus, in Orissa, what is required is an overall development strategy aimed at both the rural and urban areas. The problem faced here is the same as all over India, where lack of basic facilities in large parts of the state drive the population to a few urban areas, leading to disparity between rural and urban areas, as well as, between urban areas of different districts. Moreover, more attention has to be paid to the plateau region which is traditionally

backward and needs large scale development. This area is mostly dominated by tribals and is drought prone and therefore needs more attention.

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परिवार-1 भाग-क : आबाद अनगणना मकानों की छत, बीचार और फर्श में लगी प्रमुख सामग्री के अनुसार
सम्बन्धित परिवारों का विसरण—नगरीय

HH-1 PART A : DISTRIBUTION OF HOUSEHOLDS BY PREDOMINANT MATERIALS OF ROOF, WALL AND FLOOR OF CENSUS HOUSES OCCUPIED BY THEM—URBAN

		छत की सामग्री Material of Roof							
दीवार की सामग्री Material of Wall	कुल परिवार Total Households	घास, पत्ते सरकंडे, फूस लकड़ी, मिटटी, कच्ची ईंट या बांस Grass, Leaves, Reeds, Thatch, Wood, Mud, Unburnt Bricks or Bamboo	खपरैल, स्लेट, पटरा Tiles, Slate, Shingle	लोहू, जस्ते या अन्य धातु की नालीवार चादरें Corruga- ted Iron, Zinc or other Metal Sheets	ऐस्बेस्टास सीमेंट चादरें Asbestos Cement Sheets	ईंट, पत्थर और चूना Brick, Stone and Lime	पत्थर Stone	भार०बो० सी०/आर० सी०सी० कंक्रीट Concrete RBC/ RCC	अन्य सभी सामग्री या सामग्री नहीं बताई गई All other Materials and Meterial not stated
1	2	3	4	5	6	7	8	9	10

उड़ीसा
ORISSA

(I) फर्श की सभी सामग्री/All Materials of Floor

सभी सामग्री
All Materials

घास, पत्ते, सरकंडे या बांस
Grass, Leaves, Reeds
or Bamboo

मिट्टी
Mud

कच्ची ईंट
Unburnt Bricks

लकड़ी
Wood

पक्की ईंट
Burnt Brickr

जी०आई० चादरें या अन्य
धातुओं की चादरें
Gl Sheets or other
Metal Sheets

पत्थर
Stone

सीमेंट कंक्रीट
Cement Concrete

अन्य सभी सामग्री और
सामग्री नहीं बताई गई
All other Materials a
Material not stated

टिप्पणी : इस सारणी में संस्थागत और बेघर परिवार सम्मिलित नहीं हैं ।
Note :   This table excludes institutional and houseless households.

परिवार-6 भाग क : बिजली और शोचालय सुविधाओं की उपलब्धता और आबाद मकानों की. धारणाधिकार की स्थिति के अनुसार परिवार और जनसंख्या—नगरीय

HH-6 PART A HOUSEHOLDS AND POPULATION BY AVAILABILITY OF ELECTRICITY AND TOILET FACILITIES AND TENURE STATUS OF HOUSE OCCUPIED—URBAN

राज्य/ जिला/न०स०/ शहर/कस्बा State/ District/ UA/ City/ Town	आबाद भकान की धारणा- धिकार की स्थिति Tenure status of house occupied	परिवारों की कुल संख्या Total number of house- holds	बिजली Electricity				शोचालय सुविधा Toilet Facility			
			उपलब्ध Available		अनुपलब्ध Not available		उपलब्ध Available		अनुपलब्ध Not available	
			परिवार House- holds	जनसंख्या Popu- lation	परिवार House- holds	जनसंख्या Popu- lation	परिवार House- holds	जनसंख्या Popu- lation	परिवार House- holds	जनसंख्या Popu- lation
1	2	3	4	5	6	7	8	9	10	11
उड़ीसा Orissa	योग Tota अपना Own किराये Rent									
सम्बलपुर जिला Sambalpur District	योग Total अपना Own किराये Rent									
सम्बलपुर (न०अ०) Sambalpur (U.A.)	योग Total अपना Own किराये Rent									
सम्बलपुर (न०पा०) Sambalpur (M)	योग Total अपना Owned किराये Rented									
हीराकुद (अ०अ०) Hirakud (N.A.C)	योग Total अपना Owned किराये									

टिप्पणी : इस सारणी में संस्थागत और बघर परिवार शामिल नहीं है ।

Note : This table excludes institutional and houseless households.

परिवार-7 पीने के पानी के साधन
HH-7 HOUSEHOLD BY SOURCE

			पीने के पानी का साधन Drinking water Source						
राज्य/जिला/ थाना/न०स०/शहर/कस्वा State/District/ P.S./U.A. City/Town	ग्रामीण/ नगरीय Rural/ Urban	परिवारों की कुल संख्या Total number of house-holds	कुआं Well		टेप/नल Tap		हैण्ड पम्प/ट्यूबवेल Handpump/Tubewell	
			मकान के अन्दर Within premises	मकान के बाहर Outside premises	मकान के अन्दर Within premises	मकान के बाहर Outside premises	मकान के अन्दर Within premises	मकान के बाहर Outside premises
1	2	3	4	5	6	7	8	9

उड़ीसा
Orissa

मम्बलपुर जिला
Sambalpur District

जगदालपुर थाना
Jagadalapur P.S.

पैकमल थाना
Paikamal P.S.

पदमपुर थाना
Padmapur P.S.

गैंसिलेट थाना
Gaisilet P.S.

मलचभामुंडा थाना
Melchbamunda P.S

सोहेला थाना
Sohela P S.

बीजेपुर थाना
Bijepur P.S.

बरापाली थाना
Barapali P.S.

बारगढ़ थाना
Bargarh P.S.

टिप्पणी : इस सारणी में संस्थागत और बेघर परिवार सम्मिलित नहीं हैं ।
Note : This table excludes institutional and houseless households.

के अनुसार परिवार
OF DRINKING WATER

पीने के पानी का साधन Drinking water Source						
नदी/नहर River/Canal		तासाब Tank		अन्य Other		राज्य/जिला। थाना/न०ग०/शहर/न०स्था State/District, P.S./U.A. City/Town
मकान के अन्दर Within premises	मकान के बाहर Outside premises	मकान के अन्दर Within premises	मकान के बाहर Outside premises	मकान के अन्दर Within premises	मकान के बाहर Outside premises	
10	11	12	13	14	15	1

उड़ीसा
Orissa

सम्बलपुर जिला
Sambalpur District

जगदालपुर थाना
Jagadalapur P.S.

पैकमल थाना
Paikamal P.S.

पदमपुर थाना
Padmapur P.S.

गैसिलेट थाना
Gaisilet P.S.

मलछामुण्डा थाना
Melchhamunda P.S.

सोहेला थाना
Sohela P.S.

बीजेपुर थाना
Bijepur P.S.

बरपाली थाना
Barpali P.S.

बारगढ़ थाना
Baragarh P.S.

परिवार-2 : परिवार के आकार और उनके पास रहने के

HH-2 : HOUSEHOLDS BY SIZE OF HOUSEHOLD AND

राज्य / जिला / गा॰ग॰/शहर SI॰/ District/ UA./City	योग/ग्रामीण/ नगरीय Total/ Rural/ Urban	परिवार के सदस्यों की संख्या Number of members in the household	परिवारों की कुल संख्या Total number of house-holds	परिवार के पास कमरे/Household occupying				
				कोई पृथक कमरा नहीं No exclusive room	1 कमरा 1 Room	2 कमरे 2 Rooms	3 कमरे 3 Rooms	4 कमरे 4 Rooms
1	2	3	4	5	6	7	8	9

उड़ीसा   योग

Orissa   TOT₁

ग्रामीण

RURAI

नगरीय

URBAN

अ.

U₁

टिप्पणी :   1. कालम 5 से 13 में बेघर और संस्थागत परिवार सम्मिलित नहीं हैं ।

         2. इस सारणी में ''कमरे'' का अभिप्राय रहने के कमरे से है ।

Note :   1. Columns 5 to 13 do not include Houseless and institutional Households.

        2. In this Table 'room' means living room.

कमरों की संख्या के अनुसार परिवार
NUMBER OF ROOMS OCCUPIED

परिवार के पास कमरे/Household occupying			कमरों की कुल संख्या Total number of rooms	संस्थागत परिवार Institutional households	बेघर परिवार Houseless households	परिवार के सदस्यों की संख्या Number of members in the household	योग/ग्रामीण/ नगरीय Total/ Rural/ Urban	राज्य/ जिला/ न०स०/महर State/ District/ U.A./City
5 कमरे 5 Rooms	6 और उससे अधिक कमरे 6 Rooms & above	कमरों की अविनिर्दिष्ट संख्या Unspecified number of rooms						
10	11	12	13	14	15	3	2	1

						योग Total	योग TOTAL	उड़ीसा Orissa
						1		
						2		
						3		
						4		
						5		
						6+		
						अविनिर्दिष्ट Unspecified		

						योग Total	ग्रामीण RURAL	
						1		
						2		
						3		
						4		
						5		
						6+		
						अविनिर्दिष्ट Unspecified		

						योग Total	नगरीय URBAN	
						1		
						2		
						3		
						4		
						5		
						6+		
						अविनिर्दिष्ट Unspecified		

CATEGORIZATION OF BUILDING MATERIALS ACCORDING TO DURABILITY

(a) **Materials for Roof**

1. **Kutcha**: Grass, Leaves, Reeds, Unburnt Bricks, Bamboo, Thatch, Wood & Mud.

2. **Semi-Pucca**: (i) Corrugated Iron, Zinc or other metal
metal

sheets.

(ii) Asbestos, Cement sheets

3. **Pucca**:   (a) Less durable: Tiles, Slate and

shingle

(b) More durable: Bricks, Lime and

Stone

Concrete, R.C.C./ R.B.C.

(b) **Materials for Wall**:

1. Kutcha: (a) Less durable : Grass, Leaves, Reeds or
Bamboo.

(b) More durable : Mud

2. Semi Pucca: (i) Wood (ii) G.I. Sheets and other
Metal sheets (iii) Unburnt Bricks

3. Pucca: (i) Stone (ii) Burnt-Bricks (iii) Cement
Concrete

(c) **Materials for Floor**:

1. Kutcha: (i) Mud

2. Semi Pucca: (i) Wood/Planks (ii) Bamboo or Logs

3. Pucca: (i) Bricks, Stone and Lime (ii) Cement,
Mosiac/Tiles

ANNEXURE 6

(a) INDEX FOR BUILDING MATERIALS

(a)	Material of Wall:	INDEX
1.	Grass, Leaves, Reeds and Bamboo	(A)
2.	Mud	(B)
3.	Unburnt Bricks	(C)
4.	Wood	(D)
5.	Burnt Brick	(E)
6.	G.I. Sheets or other Metal sheets	(F)
7.	Stone	(G)
8.	Cement Concrete	(H)

(b)	Material of Roof:	
1.	Grass, Leaves, Reeds, Thatch, Wood, Mud, Unburnt bricks and Bamboo	(a)
2.	Tiles, Slate and Shingle	(b)
3.	Corrugated Iron, Zinc or other Metal-Sheets	(c)
4.	Asbestos Cement Sheets	(d)
5.	Bricks, Stone and Lime	(e)
6.	Stone	(f)
7.	R.B.C/ R.C.C.	(g)

(c)	Material of Floor:	
1.	Mud	1
2.	Wood / Planks	2
3.	Bamboo & Logs	3
4.	Bricks, Stone and Line	4
5.	Cement	5
6.	Mosiac / Tiles	6

(b)   COMBINATION OF MATERIALS TO DETERMINE HOUSE TYPE

Classification	Material of Wall	Material of Roof	Material of Floor
1. Pucca	E.G.H	b,e,f,g	4,5,6
2. Kutcha	A,B	a	1
3. Semi Pucca I	A,B	c,d	1
	A,B	b,e,f,g	1
	A,B	a,	2,3
	A,B	c,d	2,3
	A,B	b,e,f,g	2,3
	A,B	a	4,5,6
	A,B	c,d	4,5,6
	A,B	a	1
	C,D,F	a	1
	C,D,F	c,d	1
	C,D,F	b,e,f,g	1
	C,D,F	a	2,3
	C,D,F	a	4,5,6
	E,G,H	a	1
	E,G,H	a	2,3
4. Semi Pucca II			
	A,B	b,e,f,g	4,5,6
	C,D,F	c,d	2,3
	C,D,F	b,e,f,g	2,3
	C,D,F	c,d	4,5,6
	C,D,F,	e,d	1
	E,G,H	c,d	1

Semi Pucca II (Contd)

Material of Wall	Material of Roof	Material of Floor
E,G,H	b,e,f,g	1
E,G,H	c,d	2,3
E,G,H	b,e,f,g	2,3
E,G,H	a	4,5,6
E,G,H	c,d	4,5,6

WIEGHTAGES AS GIVEN BY STUDENTS FOR FINDING MAIN WIEGHTAGE

STUDENTS FROM URBAN AREAS   PERCENTAGE WIEGHTAGE

STUDENT	HOUSE TYPE	ELECTRICITY	TOILET	DRINKING WATER	CONGESTION PERSONS/Room	PRIVACY (Rooms/Couple)
1.	7.5	15	25	30	7.5	15
2.	25	15	20	20	10	10
3.	30	15	10	20	5	20
4.	40	10	10	20	10	10
5.	25	15	20	20	10	10
6.	30	15	5	15	25	10
7.	15	20	20	30	5	10
8.	25	20	20	15	10	10
9.	30	15	20	20	5	10
10.	15	20	30	25	5	5

MENA URBAN WIEGHTAGE

	HOUSE TYPE	ELECTRICITY	TOILET	DRINKING WATER	CONGESTION	PRIVACY
	24	16	18	22	9	11

STUDENTS FROM RURAL AREAS

STUDENT	HOUSE TYPE	ELECTRICITY	TOILET	DRINKING WATER	CONGESTION	PRIVACY
1.	50	20	-	15	10	5
2.	40	20	-	20	10	10
3.	40	25	-	25	5	5
4.	30	20	-	25	10	15
5.	30	25	-	25	8	12

MEAN RURAL WIEGHTAGE

	HOUSE TYPE	ELECTRICITY	TOILET	DRINKING WATER	CONGESTION	PRIVACY
	38	22	-	22	8	10