Housing And Household Amenities In Haryana, 1981.

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1989

DEDICATED

TO

MY

PARENTS

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CSRD/SSS

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CERTIFICATE

Certified that the dissertation entitled 'Housing and Household Amenities in Haryana, 1981' submitted by Mr. Pradeep Kumar in partial fulfilment of six credits out of total requirements of 24 credits for the award of the degree of Master of Philosophy (M.Phil) of this University, is his original work and may be placed before the examiners for evaluation. This dissertation has not been submitted for the award of any other degree of this or of any other University to the best of my knowledge.

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PREFACE

Housing is one of the most basic requirements for human existence. But unfortunately a large section of people all over the world run short or this requirement. In the Indian setting, the vagaries of the climatic conditions, poverty and allied problems have made a number of people to live under sub-standard conditions. The slum dwellers found in thousands in all our big cities and towns, live under such sub standard conditions, this would not only affect the physical but also social environment. As against the city and town slum conditions, and pavement dwellers are absent in villages. But the houses themselves in a large number of cases, particularly fof the poorer sections, are really sub-standard dwelling units. Moreover the lack of basic household amenities in both rural and urban areas makes the lives of dwellers miserable. One of the reasons for this condition is relatively high importance given to provide one house to one household without looking into the quality of houses. Also comparatively less attention has been given to physical condition of existing housing stock as well as in providing amenities to the dwellers.

The present study is aimed to examine the quality of housing in terms of building material as well as availability of basic amenities to the households. However, because of time constraint, the magnitude of problem of housing with regard to houseless population could not be taken into account. The study merely focuses on households with some or other type of housing facility available to them.

NEW DELHI

JULY, 1989

(PRADEEP KUMAR)

A C K N O W L E D G E M E N T S

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NEW DELHI
JULY 1989

(PARDEEP KUMAR)

C O N T E N T S

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Nature of the Problem:-

Housing as a problem of human welfare is as old as the human race itself. Although we have little idea of the manner of construction which was employed by primitive societies of the world, we are not wholly ignorant of the fact that from time to time the housing of the lower economic classes claimed the attention of the rulers. Thycydides the great writer tells us that in the fourth century B.C. there was considerable concern with housing in Athens. The Spartans were slum dwellers par excellence. The rulers of Athens, however, met the problem of housing by passing many wise and drastic laws which set up standards of safety and sanitation under housing inspectors who had full power to demolish undesirable dwellings.[1]

During the development of the great Byzantine Empire, a great deal was done to improve the sanitation of homes and bathing as a sanitary and religious requirement assumed great importance .[2]

Defining the objectives of housing Aronovici wrote as early as in 1920 "the furnishing of healthful accommodations adequately provided with facilities for privacy and comfort,

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1. Aronovici Carol - Housing the masses , New York, John Willy and Sons, Inc. 1939 P.XI

2. Ibid P.XI

easily accessible to Centres of employment, culture and amusement, accessible from the centres of distribution of the food supply, rentable at reasonable rates and yielding a fair return on the investments.[3]

HOUSING DEFINED:

Defining housing Bevar concluded it as a bulky, durable and permanent product which has a fixed location being used only in the place where it is built. Once built, it tends to remain in existence for many years, frequently long after it has served its usefulness. It becomes almost a part of the land.[4]

Although above definition has a modern approach because in some ancient as well as contemporary societies people frequently used to change their place of living or built temporary houses due to their necessities and Social Organisation, however, irrespective of space and time, man is using a place of accommodation which we call house. The cultural history of humanity looked towards house as a place of safety from both non-human and human threats.[5] It provides a place for the operation of many human activities.

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3. Aronovici Carol - Housing and the Housing Problem Mclurg 1920, P.7.

4. Beyar - Housing and Society Macmillan, New York 1965

5. C.Parvathamman Satyanaryanan - Housing Rural Poor and their living conditions Gian Publishing House, Delhi India, 1988 P.1

House serves the common purposes like feeding the members, working, sleeping, child rearing, entertaining, leisure and many more activities.[6] Consequently the nature of the space is an important determinant of personal and family satisfaction.

Mumford distinguishing social house from physical remarks that the dwelling place is a building arranged in such a fashion that food may be easily prepared, served and stored, that the processes of hygine and sanitation facilitated, that rest and sleep may be enjoyed without disturbance from the outside world and that the care of young may be carried on under favourable conditions of companionship and supervision.[7]

It reflects from the above definition that housing conditions should be understood to include not only the physical conditions of the dwelling unit but control over living conditions, the cost of housing in relation to perceived value and ability to afford these costs, the conditions of the surround neighbourhood, social life and accessibility to community facilities and employment.[8]

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6. Hartman W.Chester - Housing and Social Policy
Prentice Hall, U.S.A.1975 P.3

7. Quoted from C.P.Satyanarayana - Housing, Rural poor and their living condition
Gian Publishing House, Delhi India 1988

8. Hartman W.C.: Housing and Social Policy
Prentice Hall U.S.A. 1975 P.3

It shows that housing include more than living space and shelter. Its nature and value are determined by the facilities it gives. In inadequate houses, people accommodate themselves somehow, though the lack of basic housing amenities causes serious discomforts.

HOUSING PROBLEM AND RENEWED INTEREST ON STUDIES RELATED TO THIS

The main task facing contemporary third world countries is the improvement in the levels of living of the people in respect of fulfilling their absolutely essential or subsistence needs like food, clothing and shelter. Among these countries, total output in many previously stagnant economies has certainly grown much faster since 1945 than ever before but the welfare results have been disappointing. Lipton observed that in the last thirty years almost all the hundred odd low developed countries have enjoyed growth and even development at unprecedented rates. Yet with a few exceptions, such as China, Malaysia and Taiwan, the proportion of their population below a fixed acceptable minimum standard of feeding, housing, clothing and freedom from choronic illness has not fallen much.[9]

Advocating the development Policies which provide for the basic needs of the people, Bow observed that "the picture of destitution concentrated for the most part in countries of the third world is familiar one..... It betokens serious deficiencies in food, housing, health and education on the extremely low income level. Depending and a criteria adopted

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Michael Lipton : Why Poor people stay poor
New Delhi, Heritage 1982 P.27

it may be reckoned that there are" some 800 million people in the world living in a state of absolute poverty (World Bank) or about 1600 million people (I.L.O.). Other equally disgusting figures have to be taken into account to form a more detailed picture of various categories of unfulfilled needs: 430 million people severly undernourished, 1000 million badly housed, 1300 million without access to drinking water and according to statistics established by ENESCO, 418 million adults illiterates and 123 million children of school going not attending school.[10]

The apparent failure of the world's poorest billion people to benefit very much at all from the conventional strategies of the first two and half development decade has generated an increasingly intense search for alternative strategies that will more efficiently and quickly satisfy the minimum human needs of the poor. A look at the publications and programmes of International development agencies makes it clear that they view development as an endeavour to provide for the basic needs of the people. The United Nation maintained that "it is essential to expand and improve facilities educational, health, housing, nutrition and to safe-guard the environment". The UNICEF's development policy focusses on the provision of daily needs such as safe water, sanitation, nutritious food and vaccination etc. Similarly, ILO called for production plans on the basis of the basic needs.

10. S.L. Sharma-Development; Socio-cultural dimension Rawat Publications Jaipur 1986 P.4

Projects like HEALTH FOR ALL (WHO), FOOD FOR WORK(India), HOUSING FOR ALL (Jamaica, U.N.O.) are some of the examples of this strategy.

It is mow clear that today most of the concern of poor socities is to satisfy the basic needs viz. FOOD, HOUSING AND CLOTHING, of their masses. These are considered absolutely essential and may be defined as subsistance needs of human being because these are relevant universally under all conditions of climate and cultures in any stage of development in any political system and every society should undertake to satisfy them.

In developing societies, however, the need for food has been realised long back and many attempts have been made to solve the problem of food shortage. To an extent they have also succeeded in it. But unfortunately, the equally important need for adequate housing has been neglected as so far, there still exists a serious problem of providing houses to a large number of people who are houseless and to those who are dwelling in inadequate houses.

Steedman has rightly observed "of the fundamental human needs, food, clothing, health and shelter, the last item has traditionally ranked lowest in the priorities of most developing countries.[11]

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11. Steedman David W: Housing Asia's Millions
I.D.R.C., Canada 1979, P.7

Now a days it has been widely accepted that housing has a major approach in our Socio-economic system. Ljubinka said "dwelling conditions are one of the basic elements of social development. That is why through the concept of balancing the economic and social development a principled concept has been given about the place of the housing economy and the dwelling conditions in the Socio-economic system." [12] As such housing conditions is an important indicator of the levels of living of the people. Today the importance of housing is universally acknowledged not only for its contribution to the living conditions but also a factor affecting the productivity and morale of the people.[13]

The National sample survey report on housing also observed that "housing conditions and related facilities determine the immediate environment of man. The development of physical and mental potentialities is in turn influenced by the environment in which he lives. Housing condition is therefore recognised as an important indicator of the levels of living.[14]

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12. LJUBINKA PJANIC : Housing Problems in developing countries in A.A.Nevitt (ed.) The Economic Problems of housing ST MARTINS PRESS, NEW YORK 1967. P.189

13. V.P.Singh : Housing Programmes for SC's in U.P. KURKSHETRA Vol XXXIV No.8, May1986 P.4.

14. The N.S.S., Seventh Round 'A Preliminary Report on Housing conditions' Number 26, March 1954 P.1

Though a number of International agencies as well as many countries have viewed that housing should be a human right, yet it is included only as a package right, the right to a standard of living adequate for health including both physical needs like schools, hospitals, roads, water supply and sanitation and cultural needs for family well being in the universal declaration of human rights.

Today people all over the world face housing problem quantitative as well as qualitative. On the one hand, there are millions who do not have any kind of roof over their heads; on the other there are millions who live in inadequate houses in which they accommodate themselves somehow but the lack of basic amenities causes serious discomforts.

Thirty years back, Ettinger estimated that in order to ensure reasonable housing for all in the year 2000, it will be necessary to build 1000 million dwellings in the present century. [15] U.N.O. has also suggested to build 8 to 10 dwelling units per 100 people to ensure the housing for all by 2000. But the situation is quite alarming when many countries are building only 3 to 4 dwellings per 100 people, ignoring U.N. recommendations.

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15. J.Van Ettinger : Towards a habitable world Elsevier Publishing Company, Amsterdam, London, New York, Princeton 1960 P.32

Poor nations and poor people are the biggest sufferers of chronic shortage of houses. In developed countries the problem of housing largely concerns with instances of natural disasters and war devastations etc. while in the developing countries inadequate housing has become a permanent phenomenan. For instance in Africa, Asia and Latin America more than a billion people (about half the population) are houseless or live in housing that is described by the United Nations as a menace to health and an insult to human dignity.[16]

The high rate of Urbanward migration with natural increase of city population due to the population growth have influenced continued deterioration of housing conditions in the world. Today the problems of street sleeping and slums are common in urban areas, especially in developing countries. Although there was considerable street sleeping in Europe during the early days of industrialisation, it has been eliminated there except for a few people without jobs or families and wanderers but in Calcutta, India some 6,00,000 people sleep in the streets. Census figures for the city of Bombay, India showed that one out of every 66 persons were homeless and another 77,000 people lived under stairways, in Cattlesheets, or in similar spaces.[17]

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16. CHARLES ABRAMS : Man's struggle for shelter in urbanising World Vakila, Fegger and Simons Pvt. Ltd. Hague Building, Sprott Road, Bombay 1964 P.6

17. Ibid P.6,7

It can be concluded from the above discussion that housing the core of human settlement is not a mere shelter but is a product of socio-economic progress. It has been argued that there is a close connection between proper surroundings in terms of shelter and the well being of an individual and his family. Inadequate and improper housing affects both health and productivity adversely apart from the question of welfare which an individual and his family derives directly from congenial housing condition. Ettinger rightly observed "The personality of man is formed in the first instance by the particular way of life with which he is confronted as a child in the home ----------way of life is strongly influenced by the space in which it develops; the dwellings, the street and the neighbourhood in which man spends his daily life. Good housing i.e. well planned and well-built dwellings, streets and neighbourhood are of unestimatable importance for the development of young child. Slums could well be regarded as the "democratic" version of Hitler's concentration camps becuase anyone doomed to live in a slum seldom emerges from it unharmed.18

The above discussion emphasising the importance of housing, makes it clear that housing need is in no case less important than the need for food. But unfortunately, in the

18. J.VAN ETTINGER: Towards a habitable world
Elsevier Publishing Company
Amesterdam,London, New York,Princeton, 1960 P.27

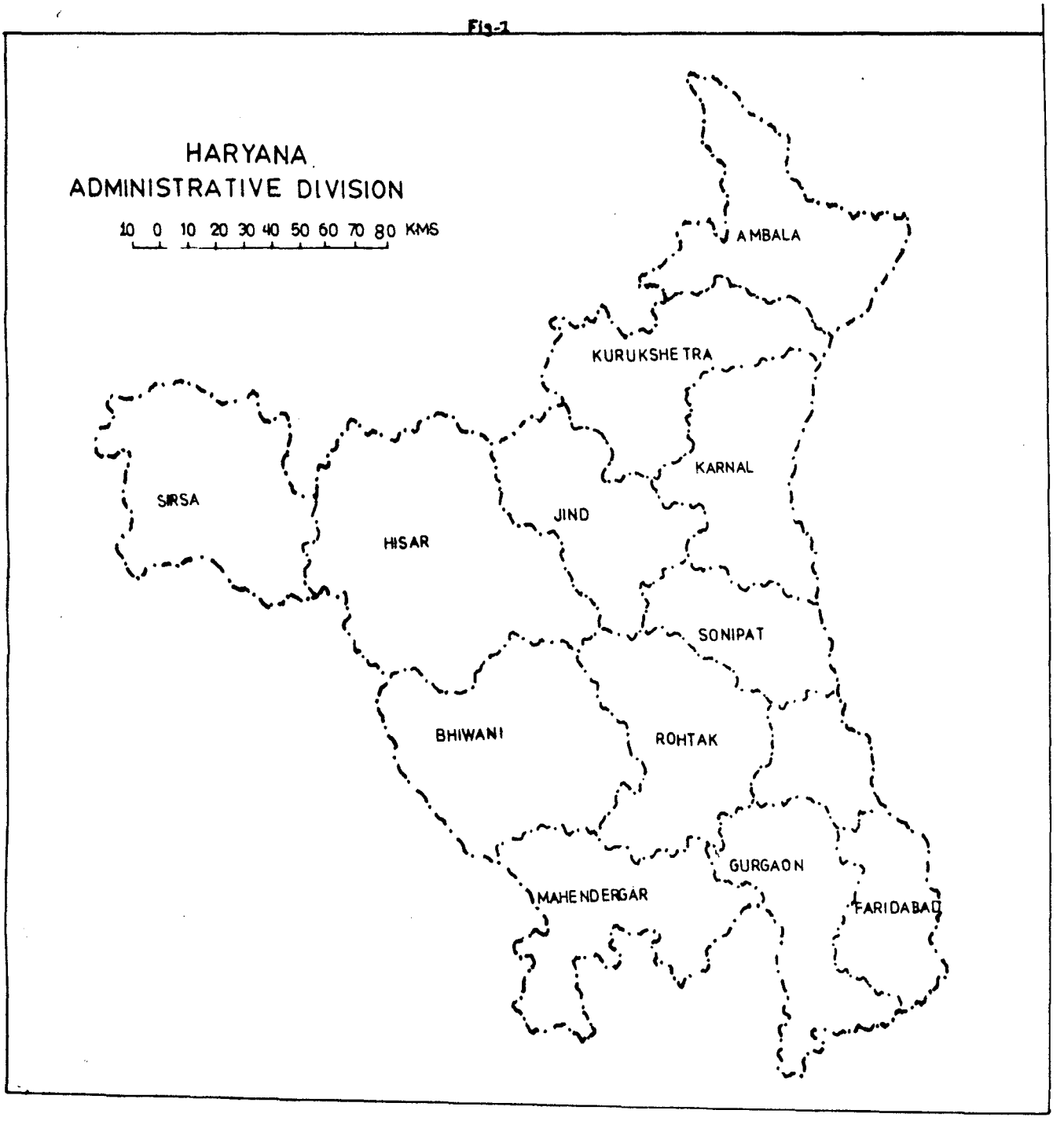
countries like India while a number of studies have been conducted on the levels of domestic product or on personal consumption expenditure as well as on nutrition/calorie intake, only a few studies have been worked out on dwelling conditions. Though some Government organizations like Census, N.S.S. and National Building Organization alongwith some other institutes for social and economic development, have been working to analyse and estimate the housing problems but these attempts are very few proportionate to the problem.

Keeping in view the lack of studies on dwelling conditions as well as the relevance of analysing housing problem, particularly in our society as it shall be discussed lateron, the present study is an attempt to analyse the housing conditions as well as the availability of household amenities to the households in the State and districts of Haryana.

STUDY AREA

The present study has been worked out for Haryana State (latitude 27° 39' to 30° 55' 5" North and Longitude 74° 27' 8" to 77° 36' 5" East) situated in the Northern part of India and within the Indo-Gangetic plains and the Himalayan Foothills. It is bound by Himachal Pradesh and Punjab in the North, Rajasthan in the West and South and Uttar Pradesh in the East where river Yamuna forms the physical boundary. In the East it also adjoins Delhi, the Capital of India.

Fig-1


HARYANA
ADMINISTRATIVE DIVISION
10 0 10 20 30 40 50 60 70 80 KMS
AMBALA
KURUKSHETRA
KARNAL
SIRSA
JIND
HISAR
SONIPAT
BHIWANI
ROHTAK
GURGAON
MAHENDERGAR
FARIDABAD

The Plains of Haryana are formed by the most recent deposits from the rivers. It lies almost 480 Kms. North of the tropic of cancer and its climate is more or less tropical. It is hot in summer and markedly cold in winter. Rainfall is deficient in Haryana and large areas suffer from the uncertainities of it though Eastern Haryana is fertile and rich in agricultural production while Western Haryana is dotted with sand dunes.

Hindi and Punjabi are the main languages spoken in Haryana and Hinduisim is the dominant religion as 89 percent of its population is Hindu. The second major religion is Sikhism claiming 6 percent of the population of the State, Haryana's 19 percent population is Scheduled Castes. Its proportion to total population is 20.7 in rurual areas while in urban areas it is 13.13% according to 1981 census.

Haryana covers an area of 44212.0 Sq.Kms which proportion to toal area of India is 1.34 percent.[19]

POPULATION:

Haryana's total population according to 1981 census is 1,292,618 persons out of which 6,909,938 are males and the rest 6,012,680 are females. In 1981 Haryana's 78.12% population lived in rurual areas in 6775 villages while the remaining 21.88 percent lived in urban area in 81 towns.[20]

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19. Census of India 1981 Part II A& III General population tables pp.14,28,34

20. Ibid PP35,44,45,50,51

ECONOMY

The State economy is predominantly agricultural. Haryana has a very high gross value from agriculture (Rs.4411 per hectare) as compared to most of the States in India.[21] It has acquired the distinction of being one of the most progressive states in the field of agriculture within a brief span of its existence. Machanised farming coupled with improved variety of needs and balanced use of fertilizers have given new look to the farmers.

There was little industrial activity at the time of formation of Haryana in 1966. Haryana has made commendable industrial progress during the last few years. There was 4519 Small scale units in Haryana in 1966 but the aggregate of registered units increased to 46766 upto Jan 1984.[22] In the large and medium sectors also the progress has been encouraging. Marked Industrial development has been recorded at Faridabad, Gurgaon, Sonipat, Rohtak, Bahadurgarh, Hissar, Jagadhri, Panipat and Ambala.

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21. Statistical Abstract of Haryana 1987
Selected Indicators for the States

22. Ibid.

OBJECTIVES OF THE STUDY:

Nevertheless, housing conditions in any society can be measured along a number of dimensions such as the physical quality of the dwelling units, extent of over crowding, the burden of housing costs and the quality of social and physical environment as well as other amenities attached to it. But considering the difficulties in the ready availability of data on all related variables, the present study takes account only the limited variables of housing.

The study therefore sets the following objectives:-

a. To analyse the physical quality of houses.

b. To examine the extent of overcrowding in terms of the density of persons in rooms.

c. To measure the availability of household amenities such as drinking water, electricity and toilets available to households.

d. To develop a housing index for the state.

e. To identify the inter-district disparities as well as to analyse the magnitude of rural-urban disparities.

f. To find out the relationships between quality of housing and other socio-economic variables such as agricultural production, forest area etc.

SOURCES OF DATA:

The districtwise data required for the present analysis have been collected from Secondry sources e.g. census tables, particularly from household tables for Haryana 1981. Apart from it various published Secondary sources like Statistical abstract Haryana different N.S.S. reports, Statistics published by N.B.C. etc. have also been consulted for this purpose.

In addition to this a few household belonging to both rural and urban areas, were consulted to know their response to relative importance for durability and amenities of houses for the purpose of assigning weights to the respective variables while preparing housing index.

METHODOLOGY:

To serve the objectives of the present study, following methods have been used:

(a) To analyse the quality of dwelling units, houses have been classified into four categories viz. Kutcha, semi pucca I, Semi pucca II and Pucca according to the durability of building material used for constructing their walls, roofs and floor. The percentage of households dwelling in each of the above mentioned type of houses has been worked out separately for total, rural and urban.

(b) The extent of overcrowding has been analysed in terms of the density of persons per room. Instead of measuring the average number of persons living in a room, households have been classified into five

categories depending upon the number of persons in a room occupied by the households, so as to get a clear picture about the proportion of house holds who dwell in extremely conjusted positions. These five categories are Households having a density of persons per room (a) less than one person (b) 1 to 2 persons (c) 2 to 3 persons (d) 3 to 4 persons and (e) 4 and above persons. Here again percentage of households falling in each of the above mentioned categories has been worked out separately for total, rurual and urban areas.

(c) To measure the level of amenities available to households, percentage of households to whom electricity and toilet facilities are available, have been worked out. However, drinking water has been classified into protected and unprotected according to the source of availability and percentage of households who get (a) Protected drinking water inside the houses (b) Protected drinking water outside the houses (c) unprotected drinking water inside the houses and (d) unprotected drinking water outside the houses, have been worked out for total, rurual and urban areas. Electricity facilities are also analysed for rural and urban separately while toilet facilities have been measured only for urban areas because in rural areas, there are no toilet facilities except a few exceptions.

Secondly, in 1981 Census, data on toilet facilities was not collected for rural areas.

(d) In the present study, the overall quality of housing has been analysed with the help of quality of housing index (Q.H.I.). In order to calculate quality of housing index, the above mentioned five variables of housing and household amenities have been utilized, these are house type, density of persons per room, electricity facilities, toilet facilities and drinking water facilities. Two types of weightage which are used in calculating QHI are, the main weightage and the sub weightage whereas main weightage are obtained with the help of primary survey of twenty people each from rural and urban areas, objective method is adopted to give the subweightages, higher the quality, higher will be the subweightage. After assigning both the weightages, the formula given below is used to calculate QHI.

$$\left[\left(\sum_{i=1}^{n} \frac{Sw \times a}{\Sigma sw}\right)A\right]$$

where A = Main weightage

SW = Sub weightage

a = percentage of variable

After preparing QHI, its relation with other socio-economic variables has been find out by correlation coefficient and stepwise regression.

Methods of classifying building materials etc, assigning weightages to different types of facilities etc. have been taken up in respective chapters.

PLAN OF THE STUDY:

The present study is divided into five chapters. The first chapter describes the nature of the problem, study area, objectives of the study, methodalogy, survey of the existing relevant literature and the hypothesis followed by it.

Second chapter describes the housing conditions in respect of the types of houses as well as the density in houses e.g. persons per room, in the state and districts.

Third chapter gives an account of the availability of amenities e.g. drinking water, electricity and toilet facilities, to the households in the State and each district while the fourth presents quality of housing index showing inter-district disparities and shows the relationship between quality of housing and other socio-economic variables.

The last chapter summarises the findings of the whole work as the conclusions and gives some of its policy implications.

REVIEW OF THE EXISTING LITERATURE

(With Special referance to India)

Housing is a universal problem now a days, in all the countries. Several studies show that at the present rate of supply and demand for houses, the housing deficiencies in developed as well as developing countries are bound to be of chronic problem. It is both quantitative and qualitative. The problem of housing in developing countries is very acute, evaluated in terms of quantitative and qualitative considerations. India is no exception to this.[23]

Payne in his study of the urban housing in third world mentioned that the pressures contributing to contemporary urban growth in the third world can now be seen to be so widespread and entruenched that any reduction in the near future must be considered unlikely even if radical measures were adopted.[24] He observed that unplanned settlement in Delhi was in most respects and by most standards was environmentally substandard in that no dwellings had a private water tap or electricity supply surface and sanitary drainage was inadequate and there was no community or welfare facilities that one could expect to find in an officially sponsored development.[25]

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23. ODEYAR D.HEGGADE: Housing and the rural poor Kurukshetra, Vol.XXXI No.13, April 1-15,1983 P.4

24. Geoffrey K.Payne : Urban Housing in Third world, London Leonard Hill; Boston Routledge Kegenpaul 1977 P.30

25. Ibid P.120

Author concluded that the scale of urban growth is not likely to be stopped by wishful thinking and in the most majority of cases it can increase further because neither is urban growth likely to be restricted by policies which attempt to decentralize labour whilst keeping all the economic resources and surplus they created within the city. if the jobs will not go to the people, the people will inevitablly come to the jobs.[26]

Orville, in an important study on urban housing, found that many of the countries with all income levels adopted standards that inhibit self-help construction and thereby set the price of housing beyond the reach of the most low income families.[27] He found that existing housing policies thus include not only the poor but also many middle income families. The study revealed that in low income cities such as Ahmedabad and Madras, however inspite of the various measures taken for cheaper housing cost, about 40 percent of the population was unable to afford the cheapest public housing. Author suggested that other programmes especially sites and services and upgrading of squatter areas would be needed in these cities to rear the poorest people.[28] It gave an account of the urban housing in the poorest developing countries in which included India, Pakistan, Bangladesh and Indonesia". The extreme poverty of the poorest of these

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26. Ibid P.214
27. Orrille F.Grinne, Tr : Housing for low income Urban families World Bank Publication 1976 P.7,8
28. Ibid P.9

settlements, the corrugated cardboard building material, the families crowded into drainage pipes, the lack of water and sanitation and the overcrowding are well known.[29] Author also found that one third of the Calcutta's population occupied small temporary single hut houses. He described that "these huts are build and owned by middleman known as 'thika tenants' who rent the hut to occupants. Slum clearance has not proved effective because of the limited resources as three quarter of Calcutta's families has incomes lower than the stipulated limit for participation in the govt. subsidized slum clearance programmes. Furthermore 'thika tenants are strongly opposed to clearance since it would deprive their livelihood.[30] In Madras the study revealed 'houses were packed closely together, located principally on public land where squatters pay no rent and roofs of coconut palm greatly increased the danger of fine. These people were also not able to afford the cheapest houses built by slum clearance board for all low income families because they could not afford to pay an economic rent.[31]

The study suggested that an organization framework capable of dealing with urban planning and housing problems of this magnitude is lacking and substantial assistance may be required for its creation. The scale of the housing problem in poorest developing countries requires particularly careful analysis and policy formulation if housing is to be improved without diverting resources from priority uses.

29. Ibid P.30
30. Ibid P.26
31. Ibid P.27

B.D.N.Sinha, in the second half of fifties analysed some aspects of housing in India. He viewed that the slum areas in every industrial set up, rural and city community stands as a nucleus of frustration, cynicism, defeating corruption, disease and crime; a potential threat to the whole social organisation.[32] He suggested that what is required at a present juncture is a unified National Housing act in respect of land use and related problems and also a uniform price, cost and taxation policy and building regulations in both cities and rural areas. He suggested that under the existing disequilibrium of living standard, low per capita income and other factors, the question arises as to how individual conveniently set aside out of their meagre income for housing purposes. In view of this uncertainity of the task, the state has to take up these problems.[33]

One important study on housing in India was conducted by Ramachandran and Padmanabha in Greater Bombay. The authors utilizing the list of election pools, interviewed 2500 low income group tenant househols whose monthly income was upto Rs.500 or less. They observed that the dwellings in which overwhelming majority of low income group reside,

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32. Bakshi D.N.Sinha : Some aspects of housing in India Bapu Bazar, Arrah, Bihar India, 1965 P.29,30

33. Ibid PP45,88,89

were sub-standard and unrelated to such basic needs as decency, privacy per capita space etc.[34] The study further revealed that the low income groups in Greater Bombay were badly off. It suggested that the government will not, on its own, be in a position to solve these problems in the near future. There was a need to prepare and pursue a realistic housing policy for the country as a social welfare measure with the collaboration of private house building industry.[35]

A related study of housing on Greater Bombay was conducted by Ramachandra to trace the residential mobility within Greater Bombay and to find out the number and types of dwellings in the typology spectrum of hut to Bungalow and related facilities and aminities existed. The study also ascertained the current rate paid by tenants for their dwellings and their capacity to pay rent. It pointed out that as regards the present dwellings, huts had practically no facilities at all while chawls had more kitchen space but common water, bath and lavatory facilities.[36] It also revealed that owners formed 15 percent of all households,

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34. P.Ramachandran, A Padmanabha : Social and Economic needs and rents and subsides for low income groups in Greater Bombay - Lalani Publishing House, Bombay, Calcutta Delhi, Madras - 1967 P.49

35. Ibid P.49

36. P.Ramachandran : Housing situation in Greater Bombay Samiya Publications Pvt. Ltd. Bombay, N.Delhi 1977 P-57

paying tenants formed 77 percent and free tenants formed 7 percent and both tenants and owners were found among hut dwellers.[37] It was found that out of every five dwellings, one was a hut, three werechawd type and one was a flat and that 25 percent households had very low income (upto 200 rupees per month) while 50 percent had low incomes (200 to 500 Rs.P.M.). Only 8 percent households had an income more than Rs.1000 per month.[38]

Recently in 1987, Parvathamma and Satyanarayana studied the problems of houseless and their living conditions in general for the state of Karnataka. The sample covered eleven districts of two revenue sub-divisions (Bangalore and Mysore). This study revealed that in the state there were 38274 houseless households comprising of 116701 persons and there was no village out of hundred village selected for the study, where did not live houseless families.[39]

The study also revealed that 45.4 percent houseless composed of scheduled caste groups. In the study 34.2 percent respondents who were houseless, indicated that their poor economic condition pushed them to low social status. Some 19.3 percent said that their dependence on other for such things like housing reduced their social standings. The differentiation between Kutcha and Pucca occured among houses only on the basis of kind of material used for onstruction

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37. Ibid P.57
38. Ibid P.61
39. C.Parvathamma, Satyanarayana
Housing Rural poor and their living conditions
N. Delhi 1988 PP 46,49

of the house. The major distinctions between the two however is that Kutcha houses are built with non-durable materials whereas the Pucca houses were built with durable material, having long life expectancy.

The author concluded that economic conditions of the people living in Kutcha houses and houseless people, more or less tally. They face problems both economic and physical insecurity.[40] It is important that majority of the houseless living with relatives and a good number were under the mercy of rural landlords. Moreover large number of houseless did not own their land, hardly they had other assets like cattle, sheep and poultry.[41]

Bakul in his study entitled 'Economics of housing in India' found that the backlog of housing shortage has been steadily increasing during the last two decades. He also found, significant variation in several aspects of the general housing conditions among different states. The study revealed that there was no significant correlation between housing and major economic variables. This study gives a brief account of the housing situation in India. It indicated that the growth rate of dwellings is considerably higher in urban areas in every state as compared to rural area has been quantitatively inadequate and qualitatively inferior as compared to the housing growth in urban areas.[42]

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40. Ibid P.120
41. Ibid P.121
42. Bakul H.Dholaka : The Economics of housing in India Indian Institute of Management Ahmedabad 1980

HEGGADE found that housing deficiencies in rural India arealso further aggravated by the absence and or often poor periodic repairs and maintenance of existing housing stocks. Thus very often the rural housing stock deplete gradually and meet premature death. A large number of rural house do not have the minimum facilities like good ventilation, enough space for accommodating people as well as farming animals, letrine etc. In terms of hygenic and civic considerations they do not satisfy the minimum conditions.[43]

Although the people who suffer from housing problems, may belong to various categories but the poorer and the weaker sections have become the worst sufferers as the formal housing agencies are not able to provide dwellings to them at affordable prices.

Pointing out the failures of National Housing Policy Amitabh Kundu analysed in his essay that "the housing situation for the poor has become extremely critical in India in recent years. Despite the claims of impressive programme in the housing sector in NHP document, the percentage of homeless population has gone up during the sixties and seventies. Micro level studies indicate that the population living in slums, shanties and pavements in Metropolitan and other large cities is growing at a much faster rate than their total population.[44]

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43. O.D. Heggade: Housing the rural poor Kurukshetra Voluma XXXI No.13 April 1-15, 1983 P.5

44. Amithab Kundu : Does National Housing Policy Answer the Housing question
Economic and Political weekly Sept 27, 1988 PP 1997-98

Sundaram in his essay 'Housing for the poor' gives a brief account of the housing situation in India. He recognized that over the sixth five year plan the requirement of dwelling units for the additional population were estimated at 4.5 million in the urban areas and 8 million in rural areas. This was over and above the housing shortage estimates by N.B.O. at 5.6 million units in urban areas and 18 million in rural areas. He also criticized the quality of existing housing against which the shortage has been computed. In urban areas, he observes 'about 68 percent of the housing stock is pucca,24.7 percent is semi pucca and the balance unserviceable Kutcha housing. In rural areas, however, Kutcha and semi kutcha housing are the rule. A very large proportion, more than 80 percent of the households reside in small one room dwelling. Due to tremendous over-crowding from urbanization and industrialization, about five persons live in one room house. So far as the availability of basic amenities is concerned, situation is no better. As seen from the N.S.S. second round, 57.3 percent of the urban households only received drinking water from taps within or outside the houses in 1973-74, and others depended on wells, tubewells or purchasing water from vendors. Of Urban households 35% do not have access to any kind of latrine while only 7 percent have exclusive use of a latrine. The availability of these or other amenities including health care, schools and recreation is not only

relatively less, but it also varies from city to cities and even within different parts of a city like Bombay.[45]

He also pointed out that about 33 million people as estimated by the planning commission are living in slums which represent some form of housing stock, albeit of the Kutcha type with materials ranging from polythene sheets,mat drytanning, gunny sacks etc. to recycled tinsheets, broken bricks in mud mortar and plaster, clay ray tiles, thach etc. Roughly 20 percent of the urban population lives in slums in 12 metropolitan cities, forming 43% of the total slum universe.

It has become clear so far that though there are poor housing conditions both in urban as well as rural areas of the country, it has been realised that the problem is great and deep rooted in rural areas. As Daya Krishan explained 'when India became free in 1947, there had been a shortage of houses both in rural and urban areas but due to various reasons construction of houses in ruralareas did not receive adequate attention in various programmes undertaken in the country since the beginning of the first five year plan in 1951. It was observed that the housing programmes undertaken in the country with the advent of planning were of a modest nature and were urban oriented.[46]

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45. P.S.A.Sundaram :Housing for the poor
The Indian Journal of Public Administration
Jan to March 1986 Vol.XXXII No.1 P.148,49

49. Daya Krishan : Housing for the rurual poor
Kurukshetra May 1981, Vol29 No.6 P.17

It is obvious that the investment in housing itself has been little in India, so the investment in rural housing is still lower. Rural housing continued to be accorded a low priority till the end of fifth five year plan. The rural housing qualified as a plan programme only during the fifth five year plan and was accordingly allotted a meagre sum of money only. After sixties however needs of rural housing started receiving priority consideration in the five year plans, it was due to the overall changes in the approach towards economic development probably becuase of the realisation that macro approach of economic development cannot benefit the rural poor. That for the mitigation and eradication of condition of poverty in rural areas, there was need to recast the macro-level approach. The families below the poverty line have to be identified and ways and means found for their economic rehabilitation. This resulted in the launching of several new programmes like SFDA, DADP, HAD and so on for the benefit of the rural poor but these were designed and implemented mainly with a view of raising the economic potential of the rural poor and not meant forsolving their housing problems which had become extremely acute over the years.

A study by V.P.Singh revealed that under the minimum needs programme in the fifth and sixth five year plans in

U.P., the distribution of land for house sites was mainly in favour of SCs and STspeople. But unfortunately on these lands most of them could not built their houses. It was reported that about 2.58 lakh allottees had been able to put up their houses in U.P. out of a total number of 12 lakhs. This means only 22% allottees, were able to construct their houses. This slow progress of house construction on allotted lands because distributed lands were not suitable for the house construction, weak financial position,delay in getting loans, lack of cooperation on govt's side and lack of infrastructure facilities.[47]

As it has been discussedthat the army of houseless population which is growing with each passing year,to a large extent belongs to economically weaker section as well as socially exploited groups. Further position of these groups as Murthy observes 'has been precarious and they were thrown on the mercy of the owners, on whose lands theyhave shelter. It may be pertinent to point out that much of the exploitation and misery of landless labour has been due to the fact that they did not own their house sites and lived on the sites own by their employers and exploiters.[48]

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47. V.P. Singh: Housing Programme for SC and STs in U.P. Kurukshetra May 1986 Vol.XXXIV p.5

48. L.S.N. Murthy: Housing the landless and weaker sections in S.K. Lan (ed) Rural development in India, some facts National Institue of Rural Development Hyderabad 1981. p.683

Though some government agencies are providing cheap houses to the poorest and the landless, it is estimated that the cheapest houses among those built by government agencies are beyond the purchasing capacity of 35 to 40 percent of the people. The capital formation in housing sector as a percentage of capital formation in the country has declined from 30 percent in 1950 to 12 percent in 1975. This indicates that while large investment were made in the different production sectors during the past few decades of planned development, not much attention was paid to the improvement or augmentation in the existing housing stock.[49]

A number of estimates are available for the housing shortage in India for the year 1981 and those estimates very widely depending on the assumption as to what should be considered to be a 'houses'. According to Kundu 'to argue that all that is needed in the housing front is to provide one house to one household without looking into the physical condition of the houses would be grossly understate the problem.[50]

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49. Amitabh Kundu: Shelter and living environment in India. Man Power Journal Vol. XIX No.4 Jan to March 1987. p.60

50. Ibid.,

The housing shortage, given by various agencies for the year 1981 are given below:-

Agency		Rural	Urbam	Millions Total
I. Operation Research	a.	22.2	7.8	30.0
Group Baroda	b.	30.8	10.8	41.6
II. Indian Institute	a.	32.8	6.6	39.4
of Management, Ahmedabad.	b.	60.0	15.3	75.3
III. Birla Institute	a.	35.3	9.6	44.9
Delhi.	b.	104.3	22.1	126.4
IV. N.B.O.	a.	16.1	4.6	20.7

National Building Organisation considered on the Kutcha non serviceable houses as parts of the housing deficits and has arrived at the lowest estimates of housing shortage as 20.7 millions. The largest figure for this shortage is given by Birla Institute of Delhi which is in the neighbourhood of a hundred and a quarter million.[51]

Many years back United Nations suggested that the country like India, if wanted to prevent the poor housing condition become worst, should built up 8 to 10 dwellings units after 100 persons. But unfortunately, this speed remained hardly 3 houses after 100 persons upto 1971. In the following years, though there has been a slow improvement, yet the construction rate did not exceed 4 houses after 100 persons.[52]

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51. Ibid., pp 60,61

52. Jagjit Singh Housing for all will remain a myth even in 2000 A.D., Navbharath Times, Feb. 4. 1989

The rate of construction of houses between 1941 to 1981 increased at a rate of 91 percent with compared to 230 percent increase in population on all India basis. Though India is a country of villages, yet, since the past few decades the population of Urban areas has been increasing fastly. In 1981, the urban population increased to 23.3. percent as compared to 17.6 percent in 1951 and it is estimated that by the year 2000, the increase in urbanpopulation will cross the limit of 30 percent. In this case India will be the first country in the world having maximum urban population of 35 to 40 crores. Obviously a large proportion of this population will be living not in proper and pucca houses but in dirty and congested slums. For instance in Delhi 53 percent population of 45 lakh people are living in such areas. Moreover, a survey report conducted by Metropolitan Development Authority of Calcutta, revealed that 76.4 percent dwellers of the survey area were suffering from respiratory diseases, 2.4 percent from mouth/dental diseases, 64 percent from stomach liver diseases and 17 percent dwellers were suffering from tuberculosis,. It further found that 15.6 percent of the total population of the study area, was suffering from heartdiseases, 16 percent from kin diseases and 17 percent from eye/nose and throat diseases.[53]

According to National Sample Survey's 1973-74 study, approximately 92.4 percent rural families had no toilet facilities and that only 7.7 percent families enjoyed protected tap water.[2]

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53. Ibid.,

The above discussions show that despite the countries achievement in diverse sectors of activities, India has yet adequatly to tackle one of its subsistance needs that of housing to its teaming millions.

HYPOTHESES:

In the light of the review ofthis literature, the following hypotheses are proposed to be testedin this study.

1. That the quality of houses is very inferior in rural areas as compared to urban areas.

2. That natural resources such as stone, concrete and forests, play a predominant role in effecting the quality of housing.

3. That there exists almost equal problem of living space in respect of congested position, in both rural and urban areas.

4. Higher the industrialization, lower will be availability of living space or high will be the density of persons per room.

5. Higher the gross value, fromagriculture, better will be the quality of housing.

6. That availability of basic amenities is very less in rural areas as compared to urban areas.

7. That higher the density of population, lower will be the quality of housing.

8. Higher the proportion of economically weaker people, lower will be the quality of housing. As scheduled Caste population is considered to be comparatively poor, so higher the proportion

of Scheduled Caste population, lower will be the quality of housing and

9. Higher the proportion of literates, higher will be the quality of housing.

CHAPTER II

HOUSING IN HARYANA

(i) Type of Houses

(ii) Density of Persons in Houses

HOUSING CONDITIONS:

The housing conditionsmay vary in accordance with the needs of the people. Since the general standarad to set housing condtions differs from country to country and from one society to another. Hence, each Society is supposed to set forth certain minimum conditions regarding housing.

It has been considered that apart from other things, a house should at least, durable and permanent in order to provide physical as well as economic security to the dwellers. But it is well known the houses of the poor are built with mud and thatch. Due to lack of skill, insufficient foundation and projection , the structure is gradually destroyed by the actions of rains,winds, and floods. Some types of materials used in building these houses, always create the danger of fire. These non durable houses need constant repairs and it is a strain on that habitant, both financially and otherwise. In the rural areas, only a small unumber of houses are built with durable materials, while a large majority ofhouses is either completely kutcha built with non durable materials or are partly kutcha and partly pucca. In Urban areas position of dwelling units is comparatively better as compare to rural areas, though a significant proportion of households live in inadequate houses here also.

In this part of the chapter condition of houses has been assessed by examining the quality of materials in respect of their durability, used in constructing the houses.

METHODOLOGY:-

Houses have been classified by the type of materials used for wall, roof, and floor and the proportion of households living in them has been measured, using the data for 1981 census. Data base and procedure of classifying houses have been given below:-

DATA BASE:

Data used for the classification of houses has been taken from HHI tables of the households tables which gives the distribution of households by material of roof, wall and floor of census houses occupied by the househols. The table has been prepared in two parts. Part A presents data for urban areas at state/district level and Part B presents data for rural areas at the state/district level. The table excludes institutional and houslesshouseholds and is based on 20% sample data.

MATERIAL OF THE WALL, ROOF AND FLOOR AS GIVEN IN HHI TABLES:

I. Material of Wall: Material of the wall has been classified into 9 categories below as per 1981 census.

a- Grass, Leaves, Reeds or Bamboo

b- Mud

c- Unburnt Bricks

d- Wood

e- Burnt Bricks

g- G I Sheets or other metal sheets.

h- Cement Concrete

i- All other material and materials not stated.

II. MATERIAL OF ROOF: Material of roof has been classified into 8categories below, as per 1981 census.

A- Grass,Leaves, Reeds, Thatch, Wood, Mud, Unburnt Br icks or Bamboo.

B- Tiles,Slate,Single

c- Corrugated Iron,Zinc, or other metal sheets.

D- Asbestos cement sheets

E- Brick Stone and Lime

F- Stone

G- Concrete R.B.C/R.C.C.

H- All other materials and material not stated.

III. MATERIAL OF THE FLOOR: In the census of India 1981, material of the floor has been classifiedinto seven categories below:-

1. Mud

2. Wood,Planks

3.Bamboo or Logs

4. Brick stone and Lime

5. Cement

6. Mosaic/Tiles

7. Others and materials not stated.

As the type of houses have been worked out on the basis of materials used in the construction of wall,roof and floor, the above mentioned material of wall, roof,and floor has been

classified into three categories viz. kutcha, semi pucca and pucca according to the durability of building materials.

CLASSIFICATION OF MATERIAL OF WALL, ROOF AND FLOOR BY THEIR DURABILITY

a. Material of the Wall It includes walls made of (i) grass leaves, reeds or Bamboo and (ii) Mud.

b. Material or the floor: It includes floor made by Mud.

c. Material of the roof: It includes roofs made of Grass, leaves, reeds, thatch, wood, mud, unburnt bricks or bamboo.

SEMI PUCCA (less durable material)

a. Material of the wall: The material used in constructing semi pucca walls includes (i) unburnt bricks (ii) wood and (iii) G.I. sheets or other metal sheets.

b. Material of the floor: Material used in building semi pucca floors include (i) wood/planks and (ii) Bamboo or Logs .

C. Material of the roof:- Material used in constructing semi pucca roofs includes (i) Corrugated iron/Zinc or other metal sheets and (ii) Asbestos cement sheets.

PUCCA (durable material)

a. Material of the Wall: Material used in constructing pucca walls includes (i) Burnt Bricks (ii) Stone and (iii) Cement concrete.

b. Material of the floor:- Pucca material of the floor includes (i) Brick, stone and lime (ii) Cement and (iii) Mosaic/Tiles.

The category of wall,floor and roof materials, which stated in the census as other materials and materials not stated has not been included in any of the above mentioned categories of kutcha,semi pucca and pucca materials simply because thenature of these materials is not clear and these may fall in any of the above mentioned three categories, or even in more than one category. Therefore to avoid the confusion, it has been suggested not to include these materials, in any of the above mentioned categories.

TYPE OF HOUSES:

Houses have been classifiedinto four types viz. KUTCHA, PUCCA, SEMI PUCCA I and SEMI PUCCA II according to the material of wall, roof and floor as discussed above.

(i) KUTCHA HOUSES:

These are non durable houses, all the three parts ofwhich wall, roof and floor are made of kutcha materials. For instance, a house will be considered kutcha when its wall is made of grass, leaves, reeds,bamboo or mud, its roof is constructed with grass, leaves,reeds,thatch or wood, mud or unburnt bricks or bamboos and its floor is made of mud.

(ii) PUCCA HOUSES: The houses are much durable and permanent and remain in existence for many years. Its wall, roof and floor aremade of pucca building materials. A house is classified as Pucca if its wall is made of burnt bricks or stone or cement

concrete, its roof is made of tiles, slate, shingleor Brick stone and lime or stone or concrete. R.B.C/R.C.C. and floor is constructed with Brick,stone and lime or cement or mosaic/tiles.

(iii) SEMI PUCCA II HOUSES

These houses are less durable than pucca houses though a significant proportion of materials used in building these is pucca. A house has been considered semi pucca II when (i) any two of its constituents e.g. Wall,roof and floor are made of pucca material and one is made of kutcha material or (ii) any two are made of pucca material and one is made of kutcha or (iii) any one among the three is made of pucca and remaining two are made of semi pucca material or (iv) all the three constituents are made of semi pucca material or (v) wall is made of pucca material, roof is made of semi kutcha material and floor is made of kutcha material.

(IV) SEMI PUCCA (I) HOUSES

Semi pucca I houses are more close to kutcha houses. However, pucca or semi pucca material in little quantity, has been used while constucting these houses. These are less durable than semi pucca II houses.

A house is considered semi pucca I house when (i) any two of its constituents e.g. wall,roof and floor are made of kutcha material and one is made of semi pucca material or (ii) any two

of its constituents are made of semi pucca material while one is made of kutcha material or (iii) one constituent is made of pucca material while remaining two are made ofkutcha material or (iv) wall is made of pucca material, roof is made of kutcha and floor is made of semi pucca materials.

Observations:

Observations in respect of the distribution of households by the type of houses are given below

TABLE II.I

DISTRIBUTION OF HOUSEHOLDS BY THE TYPE OF HOUSES

(Haryana Total) (Households in percentages)

State/ District	Kutcha	Semi Pucca I	Semi Pucca II	Pucca
Haryana	10.34	44.01	22.16	23.49
Ambala	25.10	26.79	17.71	30.40
Kurukshetra	14.59	57.18	16.94	11.29
Karnal	10.82	47.60	20.67	20.91
Jind	3.00	74.32	14.92	7.76
Sonipat	4.66	59.25	17.97	18.12
Rohtak	4.86	49.10	25.67	20.51
Faridabad	14.52	16.12	28.32	41.04
Gurgaon	17.39	20.11	29.22	33.28
Mahindergarh	6.34	16.8	39.34	37.52
Bhiwani	4.90	34.09	33.89	27.12
Hissar	5.71	64.17	13.82	16.3
Sirsa	5.73	65.18	11.71	17.38

The above table provides districtwise distribution of households by the type of houses. It reveals that in the state on an average only 23.49 percent households live in pucca houses. Among the districts highest percentage of households (41) living in pucca houses has been found in Faridabad district followed by Mahindergarh (37.52) and Ambala (30.7) while the lowest percentage of only 7.76 has been recorded in Jind district. However, the percentage of households living in pucca houses is much below the state average in Kurukshetra district (11).

In some parts of Mahindergarh and Gurgaon districts, there are low hills extending north to south which are the continuation of Aravalli Range. Here stone, concrete and lime are available in abundant quality. In Ambala district also all tahsils except Ambala adjoin the Shiwalik Range and include some hilly area. The soil of Ambala is also highly suitable for the manufacturing of tiles. The use of stones, concrete and lime in these three semihilly districts explains the high percentage of pucca houses there. Faridabad is the highest industrialised as well as highest urbanized district of the state which exnlains the highest percentage of pucca houses in the district.

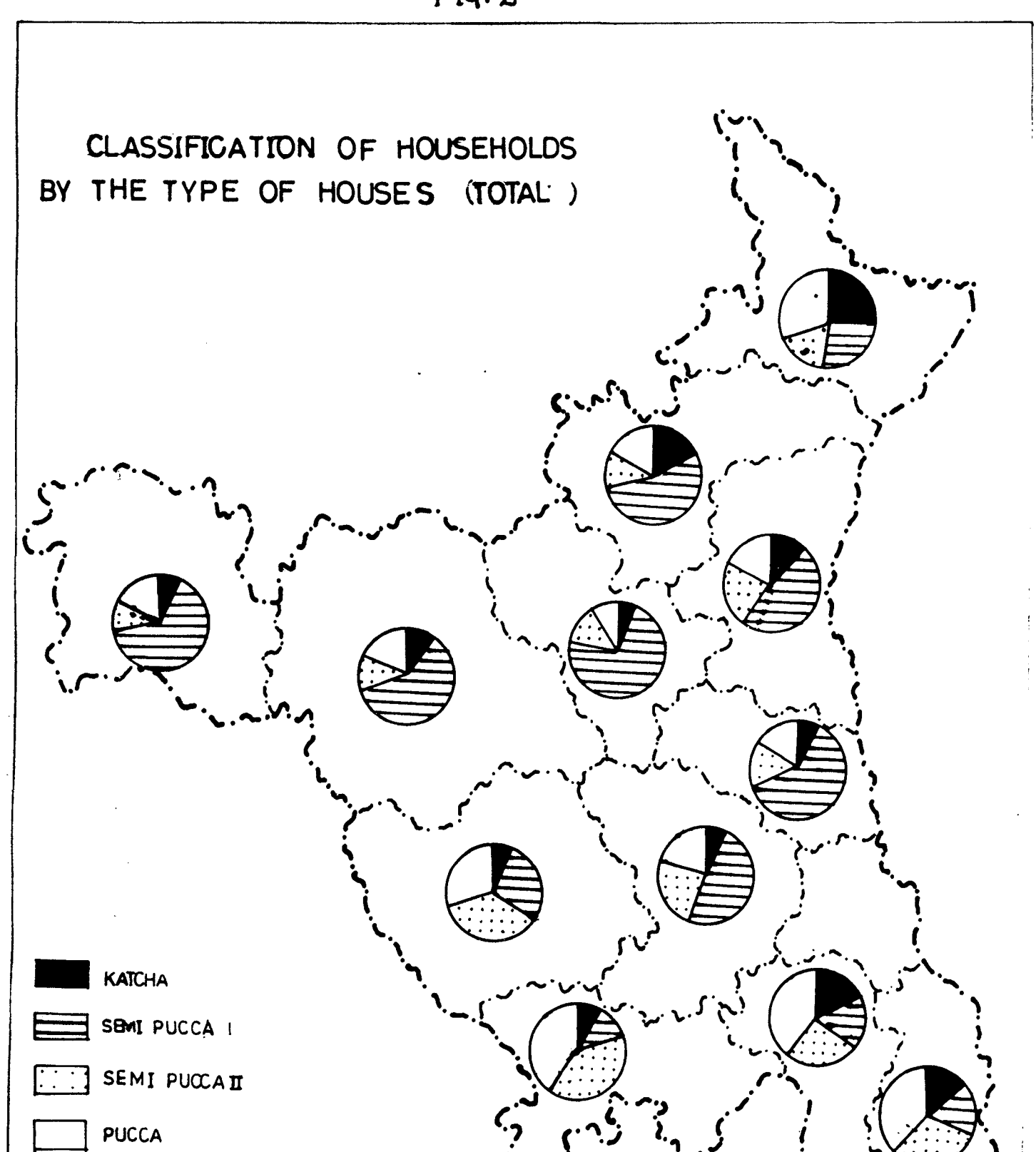
On the other hand, highest percentage of households living in Kutcha houses (25) has been found in Ambala district followed by Gurgaon (17.39), Kurukshetra (14.59), Faridabad (14.52) and Kurukshetra while the lowest percentage of 3.0 has been recorded

in Jind district. The district of Sonipat, Rohtak, Bhiwani Hissar and Sirsa also have comparatively very low percentage of households (4 to 6) living in kutcha houses. The percentage of households dwelling in kutcha houses is above the state average in the districts of Ambala,Gurgaon,Kurukshetra, Faridabad and Kurnal.

Ambala,Kurukshetra and Karnal districts have hard clay soil and also have the largest area devoted to paddycorps. These districts have as such a natural advantage in the local supply of structural mud in abudant quantity which exnlains the very high percentage of kutcha houses in these districts. The very high percentage of kutcha houses in Faridabad and Gurgaon districts reflects the existence of slum areas, which may be attributed to the high level of industrialization in these districts.

Data in table I clearly shows that majority of the households in most of the districts live in semi pucca I and II type houses. Semi Pucca I houses are more close to the kutcha houses while semi pucca II houses are comparatively nearer to pucca houses. The highest percentage of households living in semi-pucca I houses has been found in Jind district (74) followed by Sirsa (65) and Hissar while the lowest of 16 has been recorded in Mahindergarh and Faridabad Districts. It has high percentage of households (39) living in Semipucca II houses followed by Bhiwani (31), Gurgaon (22) and Faridabad (22.22) while the lowest percentage of households falling in this category (11.71) has been found in Sirsa district. The percentage of households dwellings in semi pucca II houses is above the state average in

FIG. 2


CLASSIFICATION OF HOUSEHOLDS
BY THE TYPE OF HOUSES (TOTAL)
KATCHA
SEMI PUCCA I
SEMI PUCCA II
PUCCA

the districts of Mahindergrah, Bhiwani, Gurgaon, Faridabad and Rohtak. It is noticeable that the districts where the percentage of households living in semi pucca II houses is higher, also have a higher percentage of household living in pucca houses while districts having higher percentage of households dwellings in semi pucca I houses, have low percentage of householdliving in kutcha houses.

It may be concluded from the above discussion that in the state as a whole majority of households does not have houses adequate or made of durable housing material since 54.35 percent of them dwell in absolute kutcha and semi pucca I houses. Among the districts, households in Mahindergrah, Faridabad, Gurgaon, Bhiwani and Ambala have relatively better quality houses while the districts of Jind, Kurukshetra, Hissar and Sirsa have comparatively high proportion of deficient and poor quality houses. However, among these Jind, has a slightly better position with a majority of households living in semi pucca I houses which are relatively better than absolutely kutcha houses.

TABLE II. 2

DISTRIBUTION OF HOUSEHOLDS ON THE TYPE OF HOUSES

RURAL (Households in percentage)

State/ District	Kutcha	Semi Pucca I	Semi Pucca II	Pucca
Haryana	12.26	53.16	22.12	12.46
Ambala	37.18	33.77	17.24	11.81
Kurukshetra	16.62	64.58	13.99	4.81
Karnal	14.14	60.33	17.37	8.16
Jind	3.26	83.04	11	2.7
Sonipat	5.38	69.1	16.3	9.22
Rohtak	5.69	57.1	24.79	12.42
Faridabad	19.33	24.17	37.13	19.37
Gurgaon	20.88	24.62	33.89	20.61
Mahindergarh	6.95	18.48	43.5	31.07
Bhiwani	5.52	38.48	37.51	18.49
Hissar	6.42	74.78	11.29	7.51
Sirsa	5.88	75.41	10.42	8.29

Table II above gives the distribution of households by the type of houses in the rural areas of state and each district as per 1981 census.

As is expected the proportion of pucca houses is generally very low in rural areas and this fact is supported by ~~the state as~~

data in the above table. For the state as a whole the percentage of households living in pucca houses is only 12.46. Among the districts, highest percentage of house holds dwelling in pucca houses has been found in Mahindergarh district (31) followed by Gurgaon (20.6) and Faridabad (19.37). Jind district has the lowest percentage of households (2.7 only) living in pucca houses followed by Kurukshetra (4.8), Hissar (7.5) and Sirsa (8.29). The percentage of households living in pucca houses is above the state average of 12.46 in the districts of Mahindergarh, Gurgaon, Faridabad, Bhiwani and Ambala.

As it has been mentioned that in the previous pages that stone, concrete and lime are available in abundant quality in the districts of Mahindergarh, Gurgaon, and Ambala which explains the high percentage of pucca houses there. In Faridabad ~~district~~ district also pucca building material is found in limited quantity, However, industrialization and urbanisation are the major factors explaining the higher percentage of pucca houses there. Contrary to this, Jind is the most backward district in respect of industrialization and urbanisation as Jind has the lowest number of working factories (83) as well as the lowest percentage of urban population.[1] Secondly the materials used

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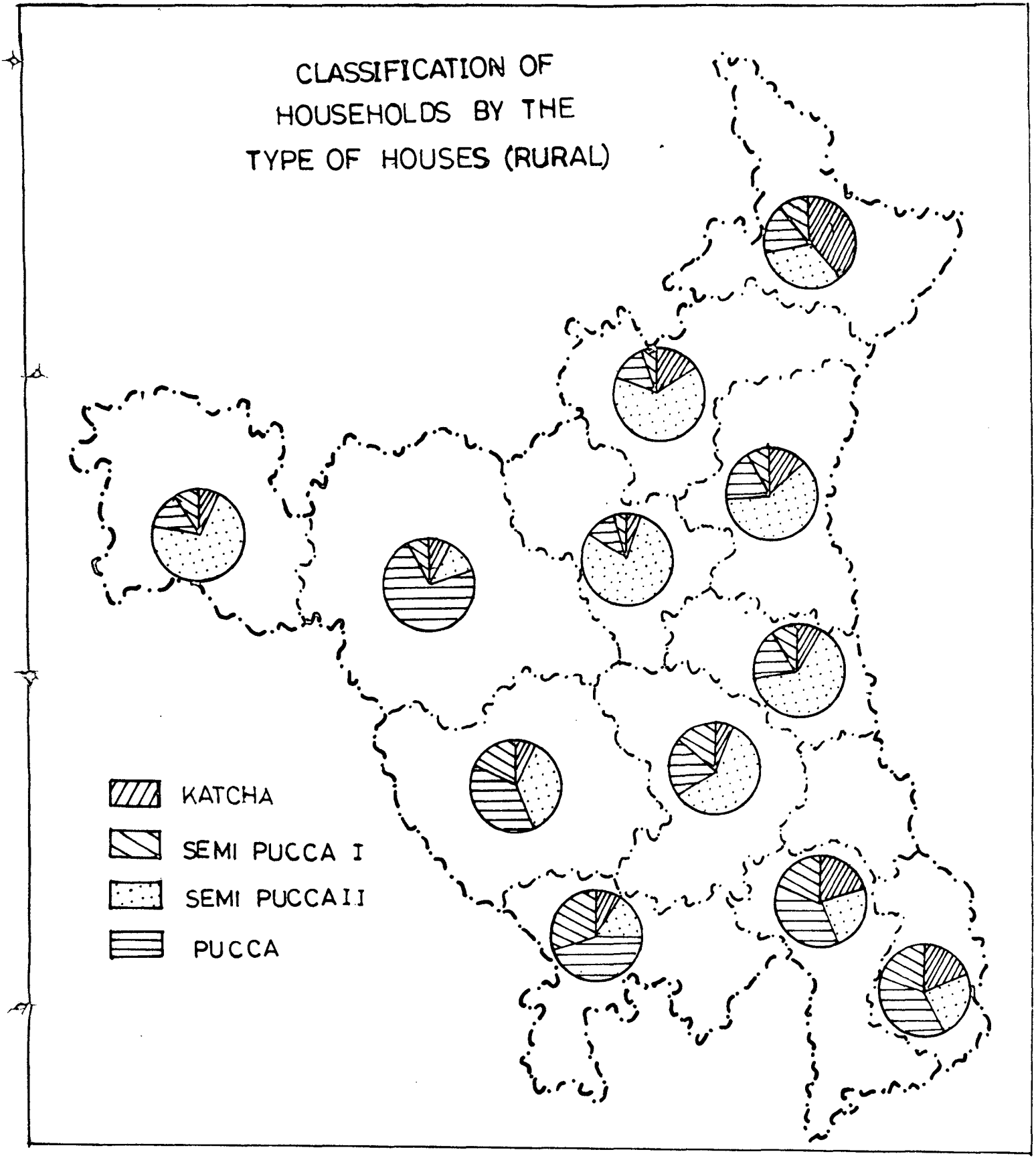
1. Statistical Abstract of Haryana. 1981-82. Selected indications for the state.

FIG. 3


CLASSIFICATION OF
HOUSEHOLDS BY THE
TYPE OF HOUSES (RURAL)
KATCHA
SEMI PUCCA I
SEMI PUCCA II
PUCCA

in building pucca houses are non-existent as a natural resource in Jind district. These factors explain the lowest percentage of households dwelling in kutcha houses.

On theother hand it is seen that highest percentage of household who dwells in kutcha houses (37) is in Ambala district followed by Gurgaon (20.88) and Faridabad (19.33). Lowest percentage of households living in kutcha houses has been found in Jind district (3.26). Percentage of households dwelling in kutcha houses is above the state average of 12.26 in the districts of Ambala, Kurukshetra, Karnal, Faridabad and Gurgaon. While in former three districts, there is some area under forests which abounds in wood, reedsand long grass . These districts also have the largest area devoted to paddy crops . These articles are used in constructing kutcha houses. Secondly these districts also have hard clay soil which provides structural mud which is used in making these houses. Faridabad and Gurgaon districts are developed in industrialization but agriculturaly these districts are comparatively backward. Rural population in these districts is comparatively poor. Secondly some slum area, existence of which may be attributed to fast Industrialization are situated outside the Municipal or F.C.A. limitation which are enumerated as rural areas. These increases the proportion of Kutcha houses in rural areas. These factors explain the high percentage of Kutcha houses in the districts

of Faridabad and Gurgaon.

It is clearly reflected from the data in table II that a very significant proportion of rural households lives in semi puccaa I houses. Highest percentage of these houselholds who live in semi-pucca I houses has been found in Jind district (83) followed by Sirsa (75.41) and Hissar (74.78) while the lowest percentage of households falling in this category has been recorded in Mahindergarh district (18.48) followed by Gurgaon (24.62) and Faridabad (24.17). Jind is an under developed district though fertility of land is relatively not very poor, intra district disparities among households in respect of the quality of houses is lowest in Jind District among all the districts of the State. In Hissar and Sirsa districts, proportion of Scheduled Castes population is very high (22 and 25 percent respectively), these are poor people and Kutcha and Semi-puccaI houses predominant here.

Again it is notable that percentage of households living in Semi Pucca II houses is generally high in only those districts where percentage of households dwelling in Kutcha houses has also been found comparatively high. Highest percentage of households living in Semi Pucca II houses (43.5) has been found in Mahindergarh district while the lowest percentage of households falling in this category has been recorded in Sirsa district (10.42) followed by Jind(11) and Hissar (11.29). The percentage of households living

in these houses is above the State average in the districts of Mahindergarh,Bhiwani, Faridabad, Gurgaon and Rohtak.

It may be concluded from the above discussion that households in the districts of Mahindergarh, Bhiwani, Faridabad, Gurgaon and Rohtak have better dwelling Units on an average while the districts of Sirsa, Hissar and Kurukshetra have deficient dwelling Units. However it is important to note that a significant percentage of households in the districts of Faridabad, Gurgaon and Ambala dwells in most deficient housing units.

TABLE 11:3

DISTRIBUTION OF HOUSEHOLDS BY THE TYPE OF HOUSES URBAN

(Households in Percentage)

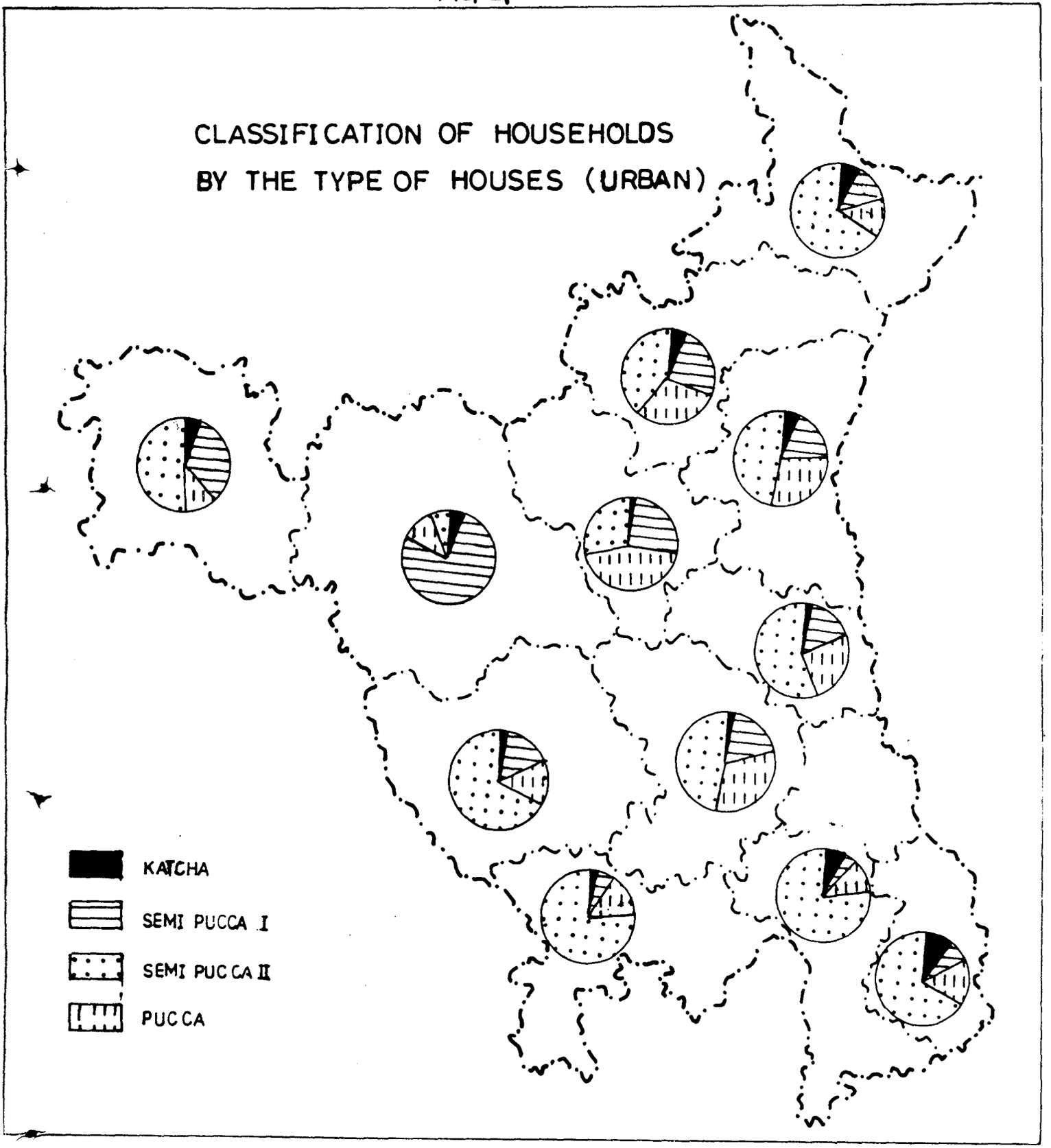
STATE/ DIST.	KUTCHA	SEMI PUCCAI	SEMI PUCCAII	PUCCA
Haryana	4.61	16.68	22.26	56.45
Ambala	4.85	15.08	18.50	61.57
Kurukshetra	5.21	23.00	30.61	41.18
Karnal	3.72	20.47	27.71	48.10
Jind	1.69	25.82	36.51	35.98
Sonipat	1.62	17.76	25.02	55.61
Rohtak	1.87	20.27	28.82	49.04
Faridabad	9.59	7. 86	19.28	63.27
Gurgaon	5.1	4.2	12.77	77.93
Mahindergarh	2.48	6.19	13.12	78.21
Bhiwani	2.14	14.83	18.03	65
Hissar	3.11	25.40	23.09	48.4
Sirsa	5.2	28.34	16.36	50.1

Table III providrs information about the distribution of households by type of houses in urban area of the district/ state. Data in the table reveals that in the state as a whole 56.45 percent households live in pucca houses. Among the districts, highest percentage of household living in pucca houses has been found in Mahindergarh district (78.21) followed by Gurgaon (77.93), Bhiwani (65) Faridabad (63.27) and Ambala (61.57). Jind district has the lowest percentage of households (36) dwelling in pucca houses followed by Kurukshetra (41.18). Percentage of households who dwells in pucca houses is above the state average in the districts of Mahindergarh, Gurgaon, Bhiwani, Faridabad and Ambala.

As it has been mentioned in the previous pages, Mahindergarh, Gurgaon and Ambala are semi hilly districts and the materials used in building pucca houses are available in abudant quality which explains the highest percentage of pucca houses in these districts. In faridabad the high percentage of pucca houses can be attributed to the fast development of urban areas due to fast rate of industrialization while in Bhiwani it is due to immediate use of burnt bricks as the soil in Bhiwani district is most suitable for the manufacturing of burnt bricks.

Highest percentage of household living in kutcha houses (9.59) has been found in Faridabad district followed by Kurukshetra (5.21), Sirsa (5.2) and Gurgaon (5.1) while sonipat district has the lowest percentage (1.62) of kutcha houses dwellers followed by Jind (1.69) and Rohtak (1.87). Whereas in Faridabad and Gurgaon high proportion of kutcha houses

FIG·4


CLASSIFICATION OF HOUSEHOLDS
BY THE TYPE OF HOUSES (URBAN)
KATCHA
SEMI PUCCA I
SEMI PUCCA II
PUCCA

show the existence of slum areas where a large number of Industrial workers live, in Sirsa and Kurukshetra districts comparatively high percentage of Kutcha houses can be explained by the low level of development and the very high percentage of Scheduled Caste population whose economic conditionsare very poor as compared to others.[2]

So far as households dwelling in Semi PuccaI houses are concerned Sirsa district has the highest percentage (28.34) followed by Jind (25.82), Hissar (25.4), Kurukshetra(23), Karnal (20.7) and Rohtak (20.27). Lowest percentage of households dwelling in Kutcha houses (4.2) has been found in Gurgaon district followed by Mahindergarh (6.19) and Faridabad (7.86). Faridabad and Gurgaon are the only districts where proportion of semi pucca I dwellings is lower than Kutcha dwellings which reflects the great disparities among the households in respect of the quality of houses in these districts.

Data in Table III reveals that Jind district has the highest percentage of households living in semi pucca II houses (36.5) while the lowest percentage of households falling in this category has been recorded in Gurgaon district (12.77) followed by Mahindergarh (13.12). The percentage of households living in Semi Pucca II houses is above the State average of 22.26 in the districts of Jind, Kurukshetra (30.61), Rohtak (28.82), Karnal (27.71), Sonipat (25.02) and Hissar (23.09). It is important to note that the

2. Census of India 1981
A Portrait of population Haryana P-93

districts where proportion of Pucca dwellings is comparitively low, have relatively high proportion of Semi-Pucca II houses.

It may be concluded from the above discussion that quality of dwelling units is comparitively better in the districts of Mahindergarh, Gurgaon, Faridabad, Bhiwani, and sonipat on an average. However, Faridabad and Gurgaon also have comparatively high percentage of most deficient dwelling units in the form of slums. The condition of slums dwelling units has been found relativley deficient or unsatisfactory inthe districts of Jind, Sirsa, Hissar, Kurukshetra, Karnal and Rohtak.

RURAL URBAN DISPARITIES

As is expected, the condition of dwelling units is better in urban areas as compared to rural areas and this fact is supported by the data in table II and III. For the state as a whole percentage of households living in pucca houses is 56.45 in urban areas as compared to 12.46 in rural areas. Majority of the households in rural areas (53%) live in semipucca I houses, while inurban areas only 16.7 percent households live in thesehouses. Similarly in rural areas 12.26 percentage of households live in these houses as compared to only 4.61 in urban areas. However in both urban and rural areas the percentage of households living in semi pucca II houses is almost same for the state as a whole. But the great rural urban disparities

in respect of housing conditions are reflected in the fact that where as only 21 percent households in urban areas dwell in kutcha and semi pucca I houses, this percentage of households is above 65 in rural areas.

Among the districts it is seen that majority of the households in the urban areas of all districts dwell in semi II and pucca houses while in rural areas majority of the households dwelling in semi pucca II and pucca houses has been found in only four districts of Mahindergrah, Faridabad, Bhiwani and Gurgaon.

It is also reflected from the data in table II and III that there exists higher rural urban disparities in respect of quality of houses in the districts of Jind, Karnal, Kurukshetra, Ambala, Sonipat, Hissar and Sirsa as compared to other districts of the state.

DENSITY OF PERSONS PER ROOM

Introduction:

One of the most important factors which must be analysed while measuring housing conditions is the density of persons in houses e.g. the size and number of rooms and the number of persons who may occupy them. Over crowding leads to many discomforts which may include physical and psychological as well as individual and social. Overcrowding also reflects the housing shortage.

The fact that majority of the rural houses are single roomed, there is no private yard and families live very congested, means housing shortage. Thenational sample survey reports revealed that about 34 percent households had only one room while another 32 percent had two rooms. The average percapita floor space worked to 59.5 sq.ft and about 14.3 percent households have a per capita floor space of 50 Sq.ft.[3]

In the present work, because of the nonavailability of district level data relating to size of room, only the density of persons per room has been worked out. As the average number of persons per room does not provide a clear picture of the proportion of households who live in extremely congested position and of those who are in a comfortable position;

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3. National Sample Survey Report 1 Vol 26, p.50,51,67

five categories of households according to the density of persons per room have been prepared. These are

(i) percentage of households with a density of less than one person per room.
(ii) percentage of households with density of 1 to 2 persons per room.
(iii) percentage of households with a density of 2 to 3 persons perroom.
(iw) percentage of households with a density of 3 to 4 persons per room.
(v) percentage of households with a density of 4 and above persons per room.

percentage of households falling in each above mentioned categories has been worked out separately for total, rural and urban areas.

METHODOLOGY:

Density of persons per room has been computed by using the data available for 1981 census series-6 Haryana, partVIII A and B, household table. HH2 tables of household tables gives the distribution of households by size and the living room occupied by the households for rural and urban areas. This table is based on 20 percent sample data.

CLASSIFICATION OF HOUSEHOLDS IN TABLE HH2

In this table households have been classified into following seven ranges depending on the number of living rooms in occupation of the households:-

1) Households with no exclusive room.
2) with one room

3) with two rooms

4) with three rooms

5) with four rooms

6) with five rooms

7) with six rooms and above

The household sizes used in the table are 1,2,3,4,5, and 6.

CLASSIFICATION OF HOUSEHOLDS BY THE DENSITY OF PERSONS PER:-

As it has been mentioned earlier in the present study, classification of households by the density of persons per room has been worked in the following five categories.

(i) Households having a room density of less than 1 person.

(ii) 1 to 2 persons

(iii) 2 to 3 persons

(iv) 3 to 4 persons

(v) 4 and above persons

Percentage of households falling in each of the above mentioned categories have been worked out by the following method.

(i) HOUSEHOLDS WITH DENSITY OF LESS THAN ONE PERSON PER ROOM

Total number of households occupying more rooms than the number of members in households.

(ii) HOUSEHOLDS WITH DENSITY OF 1 TO 2 PERSONS PER ROOM

Total number of households (i) where the number of occupying rooms and the number of members in the households are equal (ii) occupying rooms but having 3 members (iii) occupying three rooms but having 4 and 5 members (iv) occupying 4 rooms but having 5 and 6 and above members (v) occupying 5 rooms but having 6 and above members.

(iii) HOUSEHOLDS WITH DENSITY OF 2 TO 3 PERSONS PER ROOM

Total number of households (i) occupying one room but having 2 members (ii) occupying 2 rooms but having 4 and 5 members (iii) occupying 3 rooms but having 6 and above persons.

(iv) HOUSEHOLDS WITH DENSITY OF 3 TO 4 PERSONS PER ROOM

Total number of households (i) occupying only one room but having 3 members (ii) occupying 2 rooms but having 6 and above members.

(v) HOUSEHOLDS WITH THE DENSITY OF 4 AND ABOVE PERSONS PER ROOM

Total number of households occupying only 1 room but having 4,5 and 6 and above members.

Percentage of households falling in all the above mentioned categories has been worked out taking into account the total number of households excluding the Institutional and houseless households.

TABLE 11.4

CLASSIFICATION OF HOUSEHOLDS BY THE DENSITY OF PERSONS PER ROOM (HARYANA TOTAL)

State/ Distt	Less than 1 person per room	1 to 2 persons	2to 3 persons	3 to 4 persons	4 and above persons
Haryana	3.45	29.20	23.66	22.47	21.22
Ambala	3.44	24.27	22.43	23.46	26.4
Kurukshetra	2.32	23.75	23.25	25.42	25.26
Karnal	2.91	25.81	23.62	24.11	23.55
Jind	3.1	30.78	24.92	23.2	18
Sonipat	3.86	30.81	25.31	22.22	17.8
Rohtak	4.92	36	25.12	19.6	14.36
Faridabad	1.72	20.4	21.75	24.76	31.37
Gurgaon	2.26	22.86	22.95	24.77	27.16
Mahindergarh	4.71	37.17	24.81	19.48	13.83
Bhiwani	4.84	39.73	23.97	18.87	12.59
Hissar	3.93	32.11	23.36	21.3	19.3
Sirsa	3.28	29.79	23.18	21.86	21.89

Data in the above table reveals that in the State as a whole a very insignificant percentage of households (3.45) dwells in the houses having a denisty of less than one person per room. Whereas 29 percent households have the

living space one to two persons per room, a significant percentage of households (21) live in the rooms having a denisity of 4 and above persons per room and more than 22 percent households live in the rooms having 3 to 4 persons. It shows that there is a big shortage of dwelling unit as well as a great lack of privacy to the households in the State. However a majority of the households has the density of 1 to 3 persons per room.

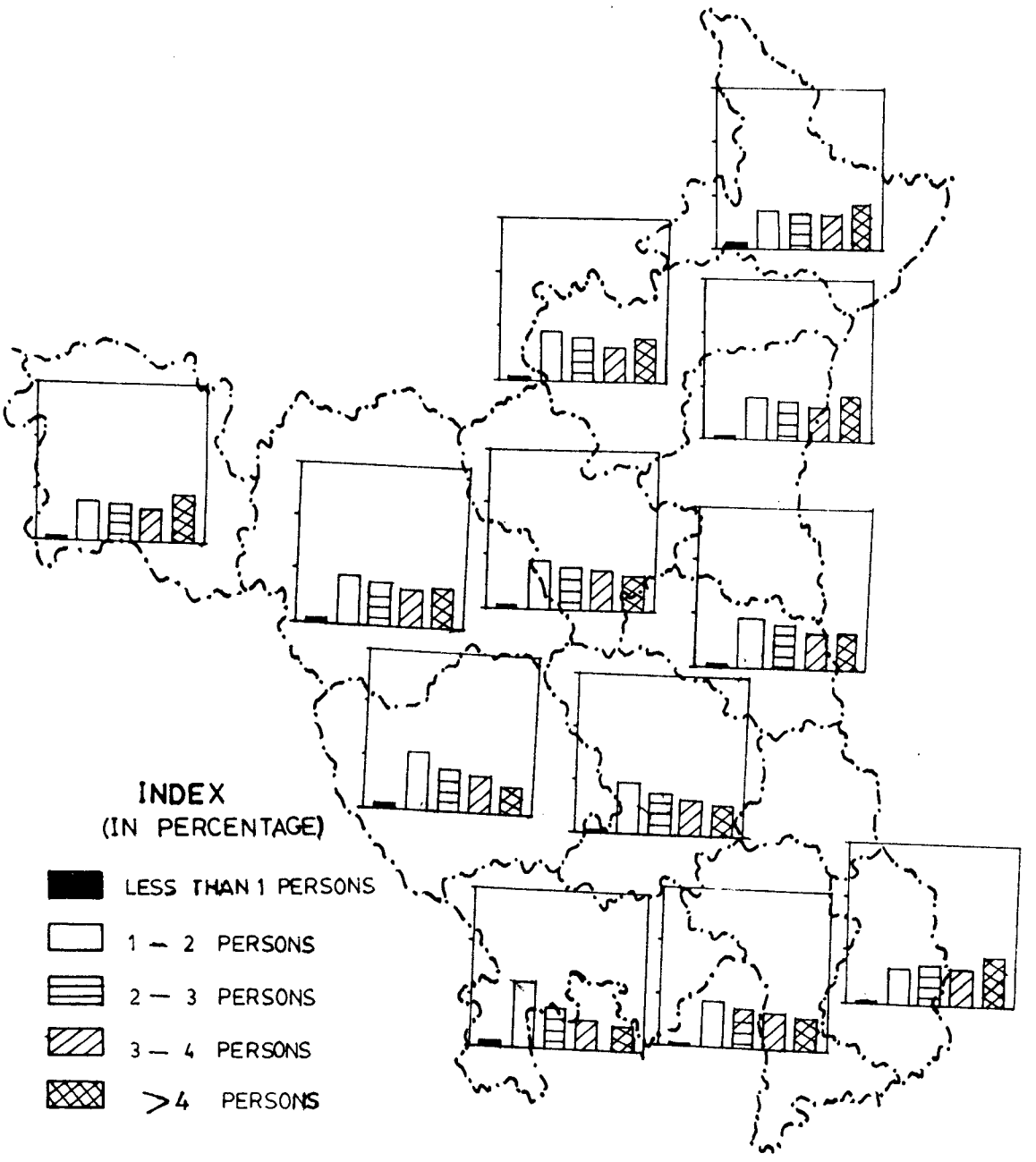
Among the districts Faridabad has the highest percentage of households (31.37) having the density of 4 and above persons per room followed by Gurgaon (27.16) and Ambala (26.4). Lowest percentage of households falling in this category has been found in Bhiwani district (12.59) followed by Mahindergarh and Rohtak (14.6). Percentage of households with the density of 4 and above persons per room is above the State average in the districts of Faridabad, Gurgaon, Ambala, Kurukshetra, Karnal and Sirsa.

In the category of 3 to 4 persons per room, Kurukshetra district has the highest percentage of households (25.42) followed by Gurgaon (24.77) and Faridabad (24.76). In this category density of persons per room has been found lowest in Bhiwani district (18.87) followed by Rohtak (19.6) and Mahindergarh (19.48). It reflects that some district which have comparitively high percentage of households having the denisity of 4 and above persons per room, also have higher percentage of households in the category of 3 to 4 persons per room.

FIG·5

HOUSEHOLDS BY THE DENSITY OF PERSONS PER ROOM

(TOTAL)



In fact the accomodation available depends on manythings such as the develop-ent of industyy, availa-bility of amenities and the area of the district etc., High density of persons per room in the districts of Faridabad and Gurgaon may be attributed to the high level of industrialisation in these districts. Secondly Faridabad has the lowest area (2150 Sq.Kms) in the state and Gurgaon also has relatively less area (2716 -Sq.Kms). In Ambala it is also due to the coming up of new industries while the districts of Kurukshetra and Sirsa are economically backward. The percentage of scheduled caste population is also very high in these districts , as they are comparatively poor people and live in small and kutcha houses which increases the density of persons per room. On the other hand Rohtak and Bhiwani are developed districts in respect of literacy and business. A significant percentage of households in these dsitricts are engaged in government services or in business. These areas depicts a healthy trend indicating that people prefer to live in bigger houses.

In the other categories highest percentage of households occupy houses with a density of 1 to 2 persons per room has been found in Bhiwani district (39.7) followed by Mahindergrah (37.17), Rohtak (36),Hissar (32.11), Sonipat (31.81), Jind (30.73) and Hissar (29.79). Lowest percentage of households

with density of 1 to 2 persons has been found in Faridabad district (20.4) followed by Gurgaon.

It is seen that there are no noticeable inter-dsitrict disparities in respect of density of persons per room in the categories of 2 to 3 and less than onep person. In the former category highest percentage of household (25.31) has been found in sonipat district followed by Rohtak (25.12) while the lowest percentage or 21.75 has been recorded in Faridabad district. Faridabad district also has the lowest percentage of households (1.72) having the density of less than one person per room while the highest percentage of households falling in the category has been recorded in Rohtak district, However, the percentage of households with a density of less than one person per room is a very insufficient in all the districts.

It can be concluded from the above discussion that households in the districts of Faridabad, Gurgaon, Kurukshetra, and Ambala live in extremely congested conditions. The districts of Bhiwani, Mahindergarh, and Rohtak show less density of persons per room and households in these districts can be said to be living in comparatively easier position. In the remaining districts, though density of persons per room is unsatisfactory, yet the households can be said to live in inextremely congested conditions.

TABLE II. 5

CLASSIFICATION OF HOUSEHOLDS BY THE DENSITY OF PERSONS PER ROOM (Rural Haryana, Household in percentage)

State/ District	Less than 1 person	1 to 2 persons	2 to 3 persons	3 to 4 persons	4 and above persons
Haryana	3.39	29.9	23.48	22.77	20.46
Ambala	2.65	22.95	22.00	25.20	27.20
Kurukshetra	1.98	22.56	23.00	26.51	25.95
Karnal	2.83	25.99	23.65	24.85	22.68
Jind	3.00	31.26	24.95	23.20	17.59
Sonipat	3.90	31.58	25.20	22.46	16.86
Rohtak	5.10	37.8	24.91	18.94	13.25
Faridabad	1.43	17,10	19.67	27.47	34.33
Gurgaon	1.92	21.42	22.19	25.34	29.13
Mahindergarh	4.69	37.27	24.82	19.58	13.64
Bhiwani	4.84	41.53	23.92	18.10	11.61
Hissar	3.93	33.54	23.16	21.25	18.12
Sirsa	3.44	31.51	23.15	21.79	20.11

Table V above gives the distributionof households according to the density of persons per room in rural areas of the state and districts as per 1981 census.

It reveals that in the state as a whole highest percentage of households (29.9) has the density of 1 to 2 persons per room, while the lowest percentage of household (3.39) falls in the category of less than one person per room.

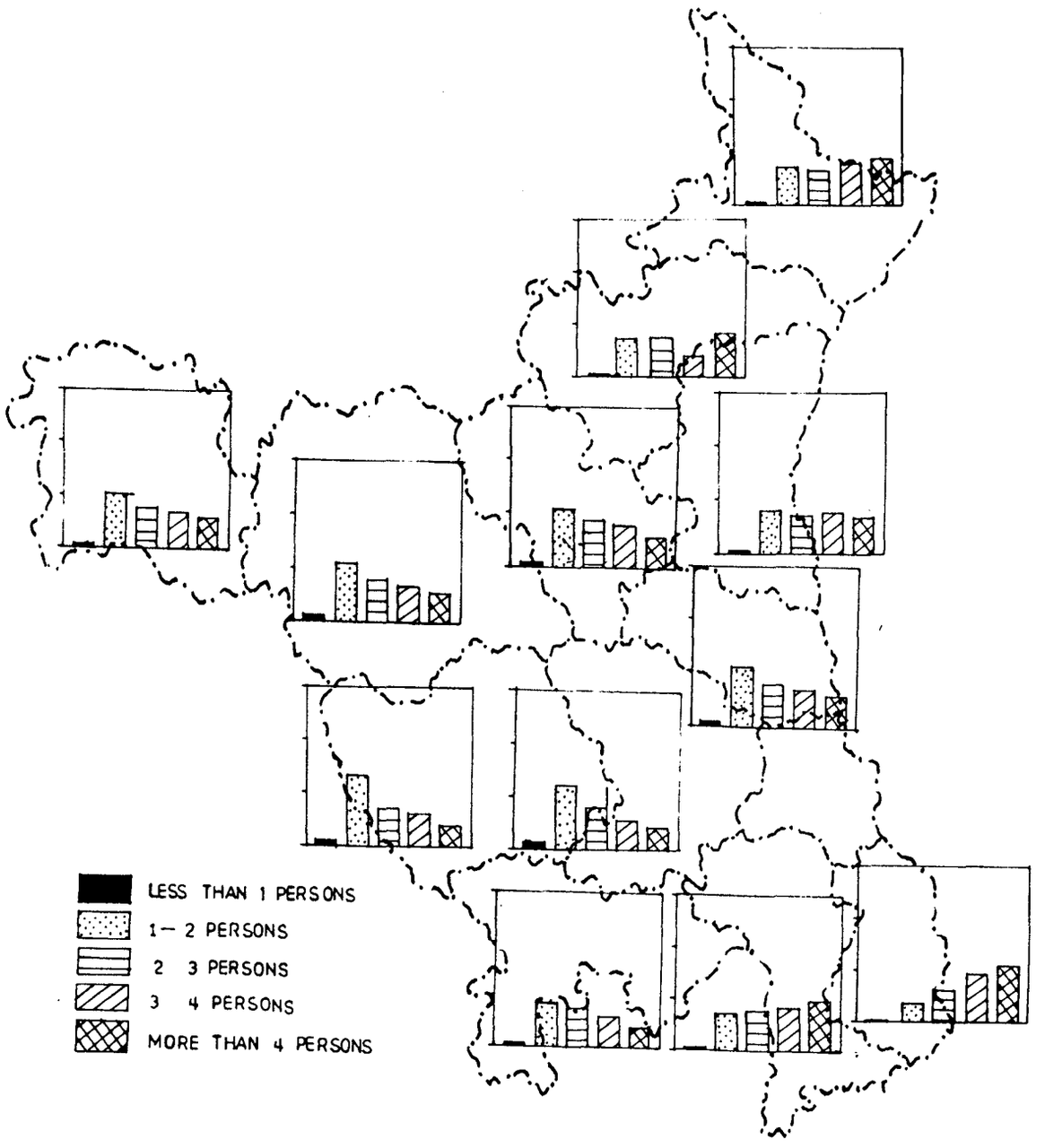
A significant percentage of household (20.46) dwells in the houses having a room density of 4 and above persons in rural areas of the state. The percentage of households dwelling with a room density of 2 to 3 persons and 3 to 4 persons have been found 23.48 and 22.77 respectively.

Among the districts highest percentage of households having room density of 4 and above persons has been found in Faridabad district (34.33) followed by Gurgaon (29.13) Ambala (27.20), Kurukshetra (25.95) and Karnal (22.68). Remaining all the districts have the room density below the state average of 20.46 in this category. However, the lowest percentage of households falling in this category of 4 and above persons per room, has been found in Bhiwani (11.61) followed by Rohtak (13.25) and Mahindergarh ((13.64).

In the category of 3 to 4 persons per room, again Faridabad has the highest percentage of households (27.47) while the lowest percentage of households falling in this category has been recorded in Bhiwani (8.1) follwed by the districts of Rohtak (18.94) and Mahindergarh (19.58), percentage of households in this category is comparatively high and above the state average in the districts of Faridabad Kurukshetra, Gurgaon, Ambala, Karnal and Jind. It is important to note that out of these six districts former five also have the percentage of households above the state average in this category of 4 and above persons per room.

FIG.6

HOUSEHOLDS BY THE DENSITY OF PERSONS PER ROOMS
(PERCENTAGE OF HOUSE HOLDS) RURAL.



Data in the table V reflects that there are no significant disparities among the districts in respect of the percentage of households having the room density of 2 to 3 persons. Percentage of households dwelling with a density of 2 to 3 persons per room has been found highest (25.20) in Sonipat district while Faridabd district has the lowest percentage of households (19.6) falling inthis category.

In other categories Bhiwani has the highest percentage of households (41.53) having the room density of 1 to 2 persons followed by Rohtak (37.8), Mahindergarh (37.27) and Hissar (33.54). In this category lowest percentage of households has been recorded in Faridabaddistrict (17) follwed by Gurgaon (21.42) Kurukshetra (22.56) and Ambala (22.95). Jind, Sirsa and Sonipat districts has also have comparatively high percentage of households falling in this category (more than 31).

It is also clear from the aboe table, that pecentage of households with a density of less than one person per room is very insignificant in all the districts. Highest percentage of households falling in this category in Rohtak district (5.10) follwed by Bhiwani (4.8) and Mahindergarh (4.7) while the lowest of 1.43 has been recorded in Faridabad district.

It may be concluded from the above discussion that among the districts, so far as the households living in congested conditions are concerned, the position of Faridabad, Ambala, Gurgaon and Kurukshetra is very unsatisfactory. A majority

of the households in these districts dwells in the houses having a density of more than 3 persons per room. The districts of Bhiwani, Mahindergarh and Rohtak are comparatively in a comfortable position in respect of the availability of living space, as in these districts a high percentage of households has been found dwelling with a density of less than 3 persons per room.

In the districts of Faridabad and Gurgaon very high density of persons per roomis due to the effect of industrialization; the areas of districts being comparatively very small and the backwardness of these districts in respect of agricultural development. Comparatively high congested position of households in Ambala and Kurukshetra is perhaps due to the high percentage of scheduled caste populationin these districts, who arepoor people living in small houses, which is reflected in the high percentage of Kutcha houses there.

TABLE II :6

CLASSIFICATION OF HOUSEHOLDS BY THE DENSITY OF PERSONS PER ROOM (Haryana, Urban percentage households)

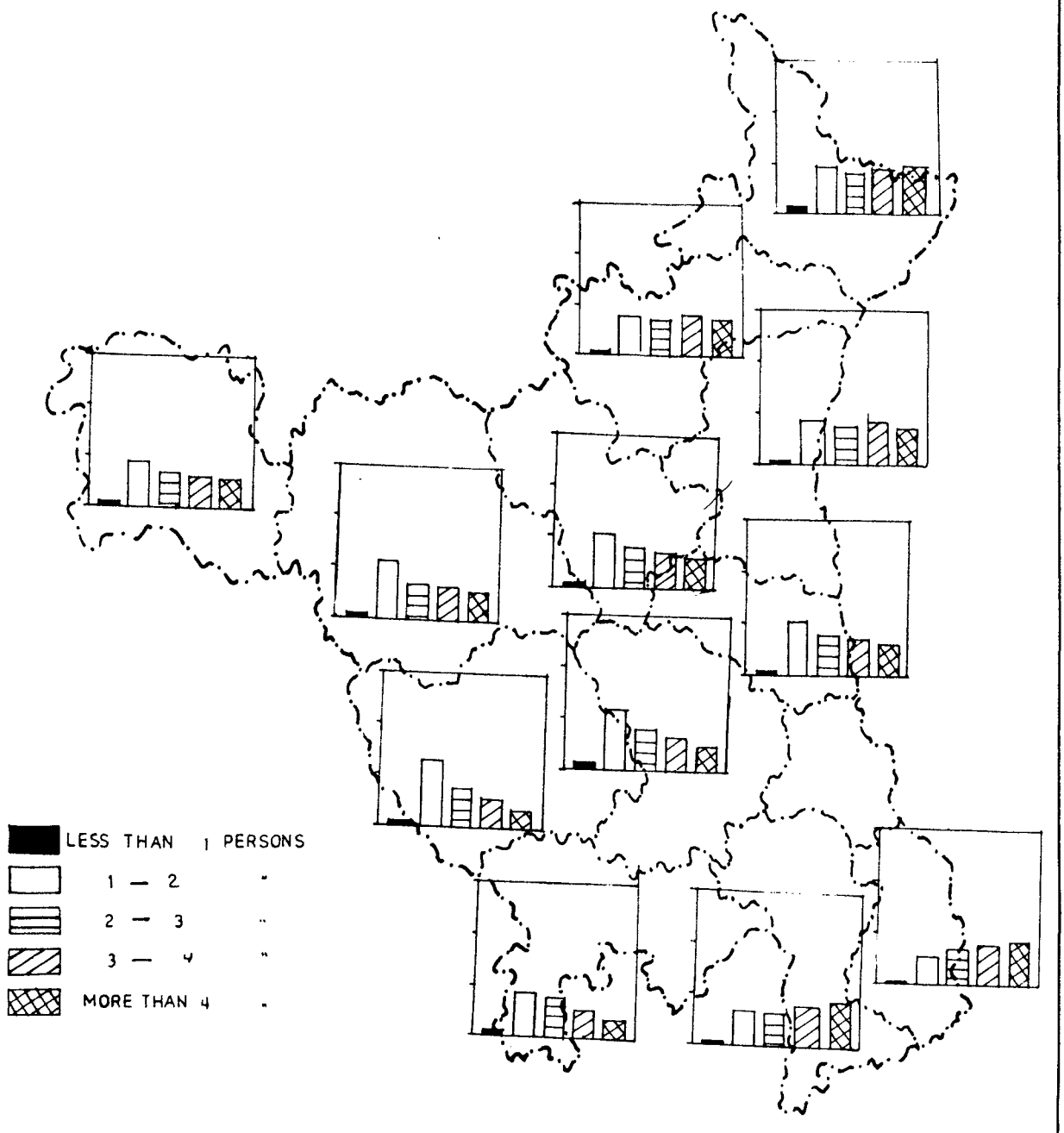
State/ District	Less than 1 person	1 to2 person	2 to 3 persons	3 to 4 persons	4 and above persons
Haryana	3.64	27.17	24.18	21.6	23.44
Ambala	4.73	26.43	23.12	20.63	25.00
Kurukshetra	3.80	28.94	24.33	20.64	22.29
Karnal	3.10	25.38	23.56	22.28	25.68
Jind	3.34	27.62	24.76	23.15	21.13
Sonipat	3.72	27.81	25.76	21.28	21.43
Rohtak	4.31	29.92	25.78	21.87	18.12
Faridabad	2.10	23.78	23.89	21.99	28.33
Gurgaon	3.43	27.88	25.56	22.81	20.32
Mahindergarh	4.85	36.54	24.84	18.77	15.00
Bhiwani	4.83	31.95	24.14	22.32	16.76
Hissar	3.91	27.00	24.10	21.49	23.50

Table VI above provides information about distribution of households by the density of persons per room in the urban areas of the state and districts.

It reveals that in the state as a whole 23.44 percent household live with a room density of 4 and above persons and equally significant percentage of households(21.6)live with a room density of 3 to 4 persons . The highest proportion of

FIG.7

HOUSEHOLDS BY THE DENSITY OF PERSONS PER ROOM
(PERCENTAGE OF HOUSEHOLDS)
(URBAN)



households in the state (27.14%) has been found dwelling with a density of 1 to 2 persons while the lowest proportion of 3.64% has the room density of less than one person. The remaining 24.18 percent households fall in the category of 2 to 3 persons per room.

Among the districts highest percentage of households dwelling with a room density of 4 and above persons (28.33) has been found in Faridabad district followed by Sirsa (26.16) Karnal (25.68) and Ambala (25). In this category of 4 and above persons per room, lowest percentage of households (15) has been recorded in Mahindergarh district followed by Bhiwani (16.76) and Rohtak (18.12). The percentage of households falling in this category is above the state average of 23.44 in the districts of Faridabad, Sirsa, Karnal, Ambala and Hissar.

In the category of 3 to 4 persons per room, there has been found very less inter-district disparities. Highest percentage of households falling in this category (23.38) has been recorded in Jind district while the lowest percentage of 18.77 has been found in Mahindergarh district. However, the districts of Jind, Gurgaon, Bhiwani, Karnal and Sirsa have comparatively high percentage of households falling in this category as compared to the remaining districts.

In faridabad and Ambala districts high density of persons per room is due to the effect of Industrialization which results

in occupation of small tenants by the workers due to exorbitant rents. In Hissar district also, the high density of persons per room is due to the over urbanisation and coming up of new industries in these districts. Though Karnal district is not much industrialised on an average but certain small towns like Panipat has a large number of industrial units resulting in high concentration of workers in certain belts of the town. Secondly density of population in Karnal is also highest in state except Rohtak. These factors explain the high density of persons per room in Karnal. On the contrary Sirsa district is under developed in both agricultural and industrial sector. It also has the highest percentage of Scheduled Caste population in the state. These people are comparativley poor and dwell in Kutcha and small houses which results in the high density of persons per room.

In the remaining categories particularly in 2 to 3 person per room, however, there seems no significant differences among the districts in respect of density of persons perroom. Percentage of households living in houses having a room density of 2 to 3 persons has been found highest in Rohtak district (25.78) followed by Sonipat (25.76) and Gurgaon (25.56). Lowest percentage of households falling in this category has been recorded in Ambala district (23.12) followed by Sirsa (23.27) Karnal (23.56) and Faridabad (23.89)

Highest percentage of households dwelling with a per room density of 1 to 2 persons per room (36.54)is found in Mahindergarh

(23.78). The percentage of households falling in this category is above the state average in the districts of Mahindergarh, Bhiwani (31.95) Rohtak (29.92), Kurukshetra (28.94), Gurgaon (27.88), Sonipat (27.81) and Jind (27.62)

In the category of less than one person perroom, a very insignificant percentage of households has been found in all the districts. However, Mahindergarh district has the highest percentage of households falling inthis category (4.85) while the lowest percentage of 2.1 has been recorded in Faridabad district. It is above the state average of 3.67 percent, in the districts of Mahindergarh, Bhiwani, Ambala, Rohtak, Hissar, Kurukshetra and Sonipat

It maybe concluded from the above discussion that so far as the households living in congested conditions are concerned, the position of Faridabad, Sirsa, Karnal, and Ambala is very unsatisfactory in the urban areas. In the former two districts more than 50% of the total households live with a room density of 3 and above persons which shows the extremely congested condition of households in these districts. Households in the districts of Mahindergarh, Bhiwani, and Rohtak live in a comparatively comfortable position in respect of the availability of living space as in these districts highest percentage of households has been found dwelling with the density of less than 3 persons per room.

RURAL - URBAN DISPARITIES

It is a general observation that there exist almost equal problem of adequate living space in both rural and urban areas and this hypothesis is confirmed by the data in table V and VI. It has been noticed that in both rural and urban areas, a significant portion of households, 20 and 23 percent respectively for rural and urban dwell in these houses having a density of 4 and above persons per room. However the density of person in room has been found relatively high in urban areas of all the districts except Gurgaon, Ambala, Faridabad and Kurukshetra where it ishigh in rural areas. The district of Sirsa, Gurgaon and Faridabad have high rural - urban disparities as compared to other districts.

SUMMARY

In this Chapter, housing conditions in Haryana have been analysed in terms of the types of houses occupied by households and the density of persons per room.

Houses have been classified in four categories e.g. Kutcha, Semipucca I, Semipucca II and Pucca. The differentiation among these occurs, only on the basis of kind of material that are used to construct the houses. The major distinction among the four, however, is that kutcha houses are built with non durable materials, where as the pucca houses are built with durable materials, having long life

expectancy. Semi pucca I houses are near to kutcha houses. Semi pucca I houses are more close to kutcha houses having a little durability while semi pucca II houses are less durable than pucca houses but having better conditiones than semi pucca I type houses.

It has been found that in the state of Haryana a majority of household(55%) live in kutcha and semi pucca houses which maybe considered as sub-standard houses. However, the position of households in this respect is very much unsatisfactory in the rural areas of the state where more than 65 percent households dwell in these houses. In the urban areas a majority of households has been found dwelling in pucca houses and also a significant percentage of households (22) live in semi puccaII houses. So far as the inter district and rural urban disparities are concerned, households in the districts Mahindergarh, Bhiwani, Gurgaon and Faridabad have comparatively better dwelling units in both rural and urban areas. Besides these, Ambala and Sonipat have comparatively better homes in rural areas. On the other hand households inthe districts of Sirsa, Hissar and Kurukshetra have most deficient dwelling units in both rural and urban areas. while Jind,Rohtak and Karnal have deficient housing units in rual areas.

So far as the density of persons per room is concerned, a significant proportion of households (21.29) in the state dwells

in the houses haing a density of 4 and above persons per room. A eqeally significant percentage of households (22.47) occupy the rooms having density of 3 to 4 persons. It reflects the great shortage of dwelling units in the state. Among the districts, households in Faridabad and Ambala districts live in extremely congested position in both and rural and urban areas. Besides, these households in the districts of Gurgaon and Kurukshetra in rural areas and in Sirsa and Karnal in urban areas dwelling units are in a very congested position.

CHAPTER - III

HOUSEHOLD AMENITIES

HOUSE HOLD AMENITIES IN HARYANA

Introduction:-

Housing includes far more than living space and shelter. Its nature and value are determined by the facilities it gives. In inadequate houses people accomodate themselves somehow though the lack of basic amenities causes serious discomforts. Therefore an examination of housing situation with reference to a package of basic amenities would project the housing quality in totality to some extent. Drinking water, electricity and toilet facilities are considered as basic amenities which must be supplied to every household irrespective of his income or status. This chapter analyses the availability of these amenities to the households in the state and districts.

Classification:

1. Drinking Water

Drinking water has been classified into four categories keeping in view the type of source of drinking water and location source, within or outside premises. These four categories are

i) Protected drinking water inside the house.

ii) Protected drinking water outside the house.

iii) Unprotected drinking water inside the house.

iv) Unprotected drinking water outside the house.

Percentages of households falling in each above mentioned categories has been worked out separately for total rural and urban.

METHOD USED FOR CLASSIFICATION:-

Data used for analysing the availability of drinking water have been taken from HH7 table of Household table Haryana, census of india 1981. This table gives the distribution of household by type of source of drinking water and location source, within or outside premises separately for rural and urban areas. This table excludes institutional and houseless households and is based on 20% sample data.

The various sources of drinking water for which the distribution of households has been given are - (i) Well (ii) Tap, (III) Handpump (iv) river/canal, (v) tank and (vi) others. Out of these six, tank and handpump/tubewell are considered as the source of protected drinking water while the remaining four sources have been treated as the sources of unprotected drinking water. Accordingly distribution of households by the drinking water facilities has been worked out by the method below:-

(a) Household to whom protected drinking water is available inside the house.

Number of households receiving drinking water from taps and handpumps/tubewells inside the houses.

(b) Household to whom protected drinking water is available outside the house.

Number of households getting drinking water from taps and handpumps/tubewells outside the house.

(c) Household to whom unprotected drinking water inside the house is available.

Number of households receiving drinking water from River, Canal, Tank, Wells and other sources excluding tubewells/handpumps inside the house.

(d) Households to whom unprotected drinking water outside the house is available.

Number of households getting drinking water from rivers, canals, tank, well and other sources excluding tubewells/handpumps outside the houses.

By using the above mentioned method of classification percentage of households falling in each of the above mentioned a,b,c and d categories, has been worked out by the total number of households excluding houseless, institutional household and separately for total, rural and urban.

2. Electricity

Observation regarding the availability of electricity facilities to the households have been computed from the HH6 table of the households table Haryana, census of India 1981. HH6 table has got two parts viz. Part 'A' and part 'B'. Part 'A' of the table relates to urban areas and gives the distribution of households and their population by tenure status of home occupied, availability of electricity and toilet facilities at state/district/U.A./City/town level.

Part 'B' of the table relates to rural areas and gives the distribution of households and their population by tenure status of the house occupied and availability of electricity to households at state/district/tehsil level.

It is different from tables HH6 part 'A' of urban areas in the sense that it does not contain information on toilet facilities which was not calculated for the rural areas.

This table excludes institutional and houseless households and is based on 20% sample data

Percentages of households to whom electricity is available as well as to those to whom it is not available have been worked out separately for total, rural and urban at state/district level. However, houseless and institutional households have been excluded from total no. of households.

3. Toilet Facilities:

In the present work, availability of toilet facilities has been analysed only for urban areas because in rural areas no toilet facilities are available except a few cases. Information on toilet facilities was also not collected for rural areas at the time of 1981 census.

Information regarding the availability of toilet facilities to the households in urban areas has been collected from Part 'A' of the household tables, Haryana, Census of India 1981; informations it contains have been discussed earlier while discussing electricity.

Percentage of households to whom toilet facilities are available and ofthose to whom it is not available, has been worked out separately for total, rural and urban. Here also houseless, institutional households have been excluded from total number of households.

OBSERVATIONS

DRINKINGWATER

The table given below provides the distribution of households by drinking water facilities in the state and districts as per 1981 census.

TABLE III. 1

CLASSIFICATION OF HOUSEHOLDS BY DRINKING WATER FACILITIES

(Haryana total, household in percentage)

State District	Protected Water Inside house	Protected Water Outside house	Unprotected Water Inside house	Unprotected Water Outside house
Haryana	24.29	30.82	1.76	43.13
Ambala	41.66	31.76	2.22	24.37
Kurukshetra	30.79	38.76	1.27	29.18
Karnal	38.98	28.52	1.89	30.61
Jind	11.12	15.87	1.84	71.16
Sonipat	26.07	17.86	2.44	53.63
Rohtak	14.50	16.68	2.22	66.6
Faridabad	32.62	24.9	2.3	40.15
Gurgaon	19.42	19.04	2.02	59.52
Mahindergarh	7. 69	35.9	1.46	54.95
Bhiwani	9.23	56.73	1.02	33.02
Hissar	19.31	40.3	1.14	39.25
Sirsa	25.29	76.13	1.05	27.53

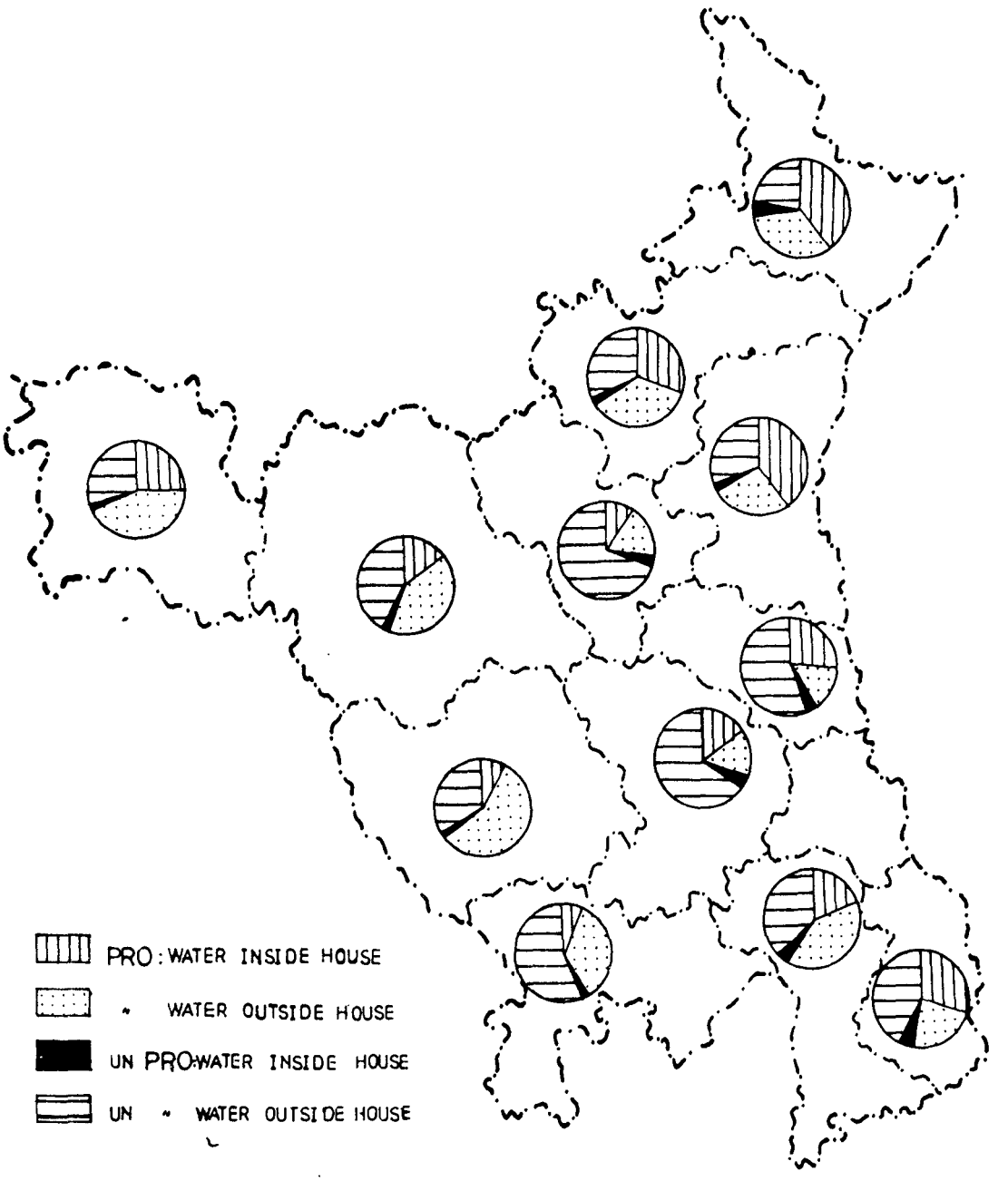
Data in the table above reveals that in the state as a whole protected drinking water inside the house is available to 24 percent households. The percentage of household receiving protected drinking water outside the houses is 30.82 for the state. It is reflected in the table that whereas a very significant proportion of household (43%) get unprotected drinking water outside the houses, only a very small percentage of households (1.76) receive it inside the houses.

Perhaps it is due to the fact that a large proportion of households in the rural areas of the state take drinking water from the open wells situated outside the villages. The very low percentage of households who get unprotected drinking water inside the house is due to two reasons. First, in a majority of villages as well as in towns, hard water is found inside the residential areas. Secondly no one would like to build open wells inside the houses because of space and security reasons. However, it is clear from the data in table III.1 that household in the state face a great lack of adequate drinking water facilities in general, since a significant proportion of households (45%) does not get protected drinking water inside or outside the houses.

Among the districts, highest percentage of households to whom protected drinking water inside the houses ia available has been found in Ambala (41.66) followed by Karnal (39.98) Faridabad (32.6) and Kurukshetra (30.79). On the contrary,

FIG. 8

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF DRINKING WATER (IN PERCENTAGE OF HOUSEHOLDS)
(TOTAL)



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Mahindergarh district has the lowest percentage of household(7.69) falling in this category followed by Bhiwani (9.23), Jind (11.12) and Rohtak (14.5). The percentage of households getting protected drinking water is above the state average of 24.29 in the districts of Ambala, Karnal, Faridabad, Kurukshetra, Sonipat and Sirsa.

In the next category of households who get protected drinking water outside the houses, highest percentage of households (56.73) has been found in Bhiwani district followed by Sirsa (46.13) while the lowest percentage of households falling in this category has been recorded in Jind district (11.12). The percentage of households getting protected drinking water outside the houses is comparatively high in the districts of Bhiwani, Sirsa, Hissar (40.3), Kurukshetra (38.76) and Mahindergarh (36) while it is relatively low in the districts of Jind (15.87), Rohtak (16.68) Sonipat (17.86) and Gurgaon (19).

So far as the proportion of household getting unprotected drinking water is concerned, highest percentage of household getting unprotected drinking water outside houses has been found in Jind district (71.16) followed by Rohtak (66.6), Gurgaon (59.52) and Mahindergarh (54.95). Ambala district has thelowest percentage of households falling in this category (24.37). In otherdistricts, it is comparatively low in the districts of Sirsa (27.53), Kurukshetra (29.18), Karnal (30.61) and Bhiwani (33)

However, there exists no significant disparities among the district in respect of the percentage of household getting unprotected drinking water inside the houses, since proportion of household falling in this category ranges between 1 to 25 per cent only.

From the above discussion it would be noticed that among the districts, so far as the availability of safe drinking water is concerned, the position of Jind, Rohtak, Gurgaon, Mahindergarh and Sonipat is very unsatisfactory, as the majority of the households in these districts does not have the availability of protected drinking water inside or outside the houses. (Maps) As seen in the maps, households in the districts of Ambala, Sirsa, Kurukshetra, Bhiwani and Karnal have comparatively better drinking water facilities, since a significant proportion, of households (67 to 77%) in these districts get protected drinking water. The situation in Faridabad and Hissar districts however, is not extremely deficient. In Faridabad a significant proportion of households (35%) receive protected drinking water inside the houses.

Better drinking water facilities in the districts of Ambala, Karnal and Kurukshetra may be attributed to the large number of rivers and canals in these areas. Portable water is also found within the premises of house which is pumped by tubewells and handpumps. On an average portable water is found in abundant quantity in these districts and a

significant proportion of households have their own handpumps and tubewell inside the houses. Secondly the tap water supplied by the government agencies is also in sufficient quantity.

In Bhiwani and Sirsa districts government has taken special measures to provide drinking water by constructing water pumps outside the villages because there had been a great scarcity for drinking water. The high percentage of households getting protected drinking water is Faridabd district can be attributed to the very high level of urbanization, as Faridabd has the highest percentage of urban population (41) among the districts of the State.[1]

TABLE III: 2

DISTRIBUTION OF HOUSEHOLDS BY DRINKING WATER FACILITIES (Haryana Rural Household Percentage)

State Distt.	Protected Water inside houses	Protected Water outside houses	Unprotected Water inside houses	Unprotected Water outhouses
Haryana	12.40	30.53	1.65	55.42
Ambala	28	33	2	37
Kurukshetra	23	40	1	34
Karnal	27	31	2	40
Jind	3	13	2	82
Sonipat	17	15	2	66
Rohtak	2	13	2	83
Faridabad	7	19	3	71

1.See A Portrait of Population Haryana, Census of India, 1981.

State Distt.	Protected Water inside houses	Protected Water outside houses	Unprotected Water inside houses	Unprotected Water outside houses
Gurgaon	7	17	2	74
Mahindergarh	2	34	1	63
Bhiwani	2	58	1	39
Hissar	9	42	1	48
Sirsa	16	49	1	34

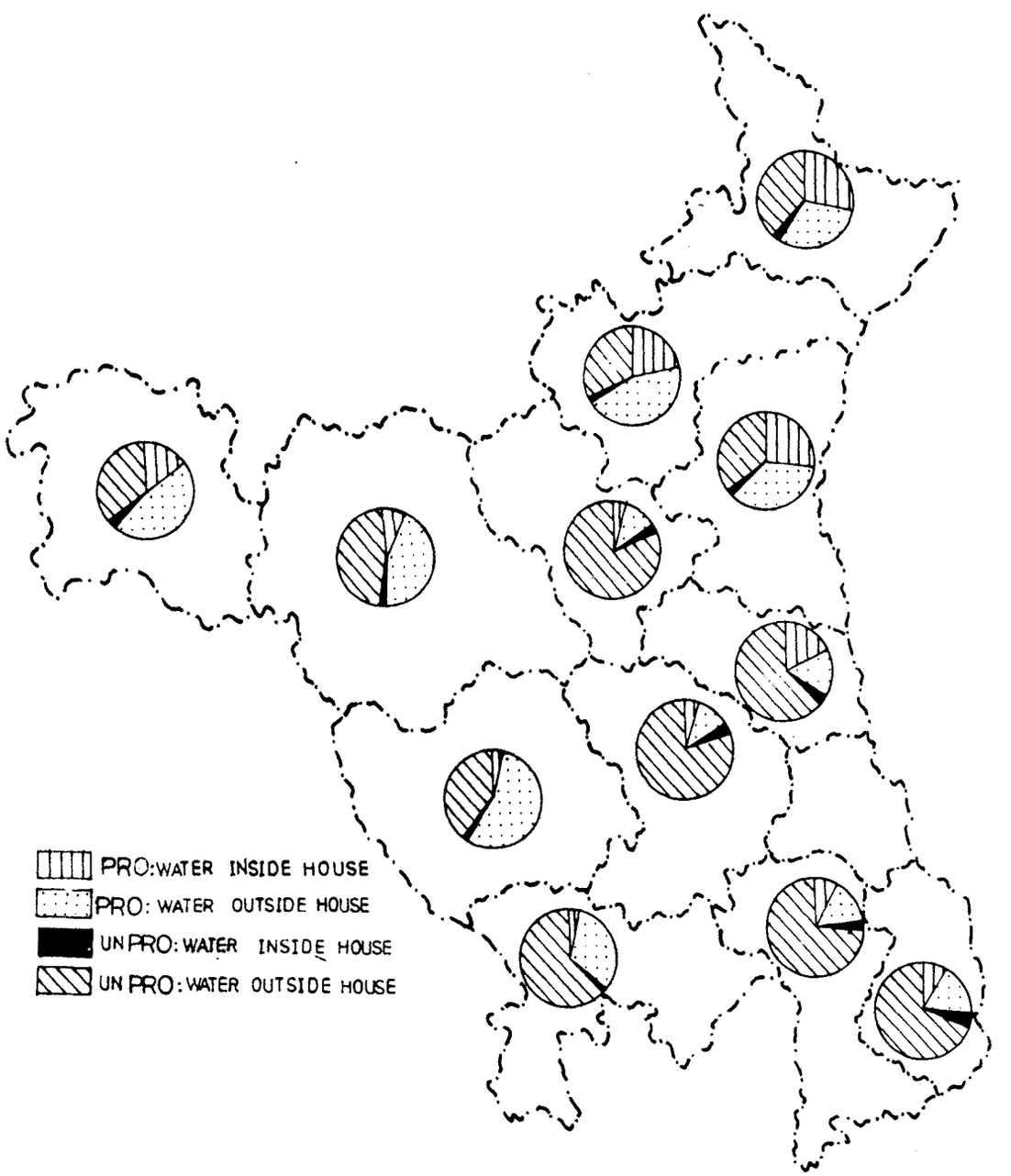
Table III:2 above gives the distribution of households by drinking water facilities in the rural areas of state/districts.

It reveals that in the state as a whole, a very insignificant percentage of households (12.4) receive protected drinking water inside the houses. However, the percentage of households to whom protected drinking water outside the houses is available has been found 30.53 percent. Data in the table shows that whereas a majority of households (55.42%) in the rural areas of state get unprotected drinking water outside the houses, only 1.65% household receive it inside the houses. It is clear from the above table that drinking water facilities are very deficient in the rural areas of the state as majority of the households receive unprotected drinking water outside the houses.

Among the districts, Ambala has the highest percentage of household to whom protected drinking water inside the houses is available while the lowest percentage of households falling in this category has been found in Mahindergarh, Bhiwani and Rohtak district (2 each). Percentage of households to whom protected drinking water inside the house is available is

FIG. 10

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF DRINKING WATER (IN PERCENTAGE) RURAL



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above the state's average of 12.4 in the districts of Ambala (28), Karnal (27), Kurukshetra (23), Sonipat(17) and Sirsa (16)

In the next category of households who get protected drinking water outside the house, highest percentage of households (58) has been recorded in Bhiwani district followed by Sirsa (49) Hissar (42), Kurukshetra (40) Mahindergarh (34), Ambala (35) and Karnal (31). Lowest percentage of households falling in this category has been found in Jind and Rohtak districts (13 each) followed by Sonipat (15), Gurgaon (17) and Faridabad (19)

In so far as the population of households receiving unprotected drinking water is concerned higherst percentage of household falling in this category has been found in Rohtak district (83) followed by Jind (82), Gurgaon (74) and Faridabad (71). Lowest percentage of household to whom unprotected drinking water outside the houses is available has been recorded in Kurukshetra and Sirsa districts (34 each) followed by Ambala (37), Bhiwani (39) and Karnal (40). However the proportion of households getting unprotected drinking water inside the houses is very insignificant in all the districts of the state. Highest percentage of households getting unsafe drinking water inside the houses (3) has been found in Faridabad district while the lowest of it has been recorded in the districts of Kurukshetra, Mahindergarh, Bhiwani, Hissar and Sirsa.

In the rural areas of the state, there are common tap water facilities available to the households and separate water connections inside the houses are not given in most of the districts, which explain the very low percentage of households getting protected drinking water inside the houses. In the districts of Ambala, Kurukshetra, and Karnal as discussed earlier, there are a number of rivers and canals which provide abundant quantity of water. This water, after purification by water works department, is supplied to the households. Secondly ground water in the villages of these districts is also portable. Consequently a large proportion of household has tubewells and handpumps in their houses. These factors explain the high percentage of households getting protected drinking water in these districts. Households in the districts of Bhiwani, Hissar and Sirsa faced great drinking problems in the past and government took special measures by constructing water pumps outside the villages which is reflected in the large proportion of households receiving protected drinking water outside the houses.

In the districts of Rohtak, Jind, Gurgaon and Faridabad hard water is found inside most of the villages and households bring drinking water from the open wells outside the villages. Secondly there are only a few rivers and canals and these districts always face scarcity of water as a natural resource. Though a few tap water connection, common to all households are available in the villages but water supply takes place for a limited time

only. Therefore, most of the households in these districts are depedent on open wells outside the villages for drinking water which explains the very high percentage of the households who receive protected drinking water outside the houses.

From the above discussions it would be noticed that among the districts, so far as the availability of drinking water facilities are concerned the position of Ambala, Karnal, Kurukshetra, and Sirsa is comparatively better. (Map 9). Households in the districts of Jind, Rohtak, Gurgaon and Faridabad have very deficient drinking water facilities. However, the position of Bhiwani, in respect of the availability of drinking water is not much unsatisfactory. (Map 9)

TABLE III: 3

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF DRINKING FACILITIES (Haryana Urban) (Household in percentage)

State / Distt.	Protected Water inside house	Protected Water outside house	Unprotected Water inside house	Unprotected Water outside house
Haryana	59	31.65	2	7.19
Ambala	64	30	2	4
Kurukshetra	63	28	2	7
Karnal	67	24	2	7
Jind	53	36	2	9
Sonipat	62	28	2	8
Rohtak	57	30	3	10
Faridabad	59	31	2	8
Gurgaon	62	26	2	10
Mahindergarh	45	44	2	9

State Distt.	Protected Water inside house	Protected Water outside house	Unproteced Water inside house	Unprotected Water outside house.
Bhiwani	41	50	1	8
Hissar	54	37	2	7
Sirsa	58	36	2	4

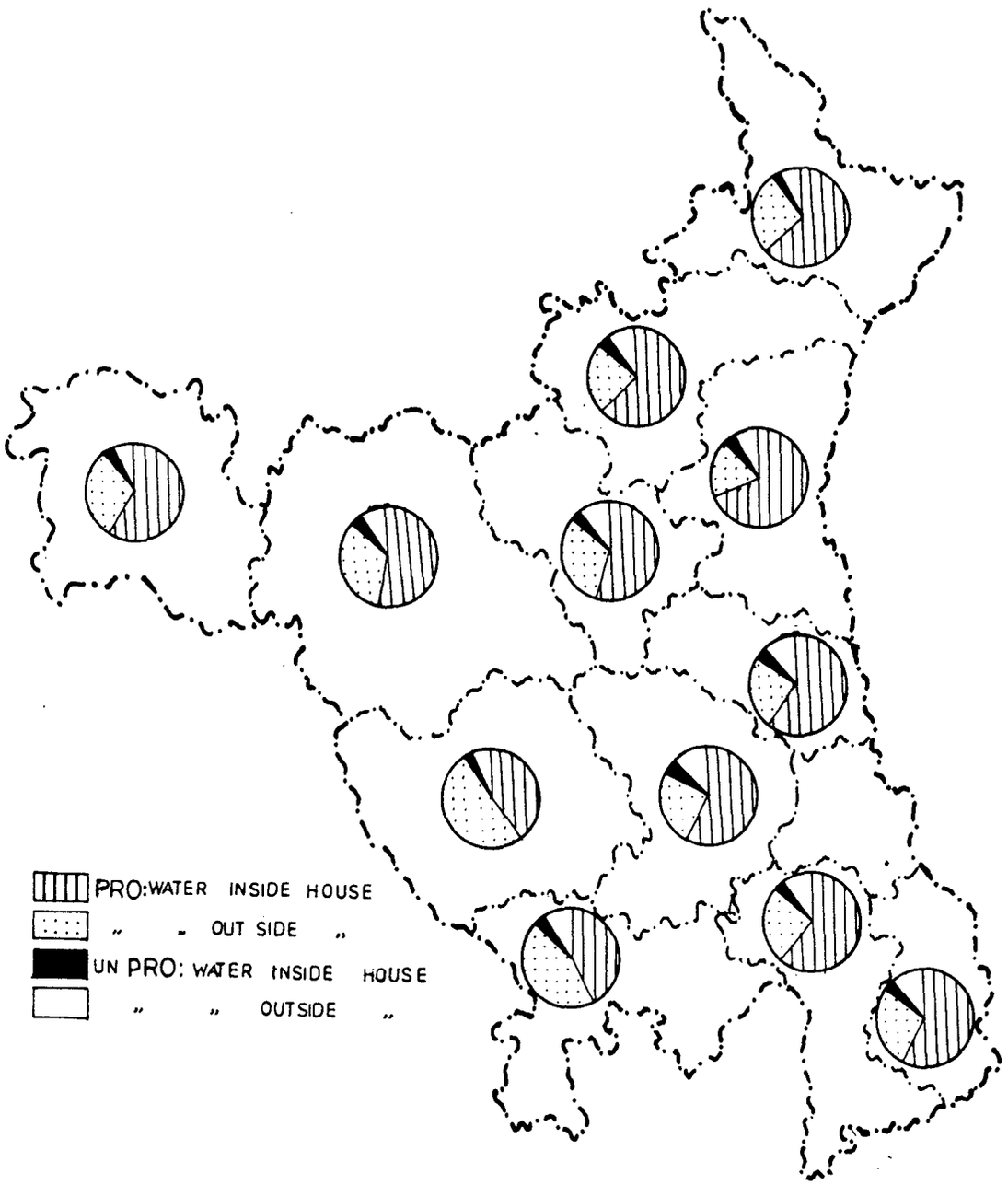
Table III.3 gives information about the distribution of households by the availability of drinking water facilities in the urban area of each district.

It reveals that in the state as a whole only 59% household get protected drinking water inside the houses while significant percentage of households (31.65) in the state receive protected drinking water outside the houses. Data in the table shows that whereas 7.19% households receive unprotected drinking water outside the house, the percentage of households to whom unprotected drinking water is available inside the houses is only 2. In urban areas every household is supposed to get protected drinking water inside the house, as bringing drinking water from outside is very inconvenient, particularly in urban areas. A large proportion of households getting drinking water from outside reflects the deficient drinking water facilities in the urban areas of the state.

Among the districts, highest percentage of households receiving protected drinking water inside the houses has been found in Karnal (67) follwed by Ambala (64) and Kurukshetra (63). Lowest percentage of households falling in this

FIG. 8

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF DRINKING WATER (IN PERCENTAGE) URBAN



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category has been found in Bhiwani district (41) followed by Mahindergarh (45) Jind (53) and Hissar (54). percentage of households falling in this category is above the state's average of 59 in the districts of Karnal, Ambala, Kurukshetra, and Gurgaon. In the remaining districts it is comparatively high in Faridabad (59) Sirsa (58) and Rohtak (57).

Highest percentage of households to whom protected drinking water is available outside the houses, has been found in Bhiwani district (50) while the lowest percentage of households falling in this category has been recorded in Karnal district (27). It is above the state's average in the districts of Bhiwani, Mahindergarh, Hissar, Sirsa and Jind.

As it has been mentioned earlier, the districts of Ambala, Kurukshetra and Karnal have a plenty of water due to the large number of rivers and canals in these areas. Secondly ground water is also portable in these districts which explain the high percentage of households getting protected drinking water inside the houses. On the contrary there is a great scarcity of drinking water in the districts of Bhiwani, Mahindergarh and Hissar. They have been drought prone areas having a very low level of ground water. Secondly there are only a very few rivers/ canals in these districts. In many localities there are tap water connection common to all households which explain the large proportion of households receiving protected drinking water outside the houses.

The percentage of households who get unprotected drinking

water is comparatively small in all the districts of the state. The highest percentage of households receiving unprotected drinking water outside the houses has been found in Rohtak and Gurgaon districts (10 each) while the lowest of it has been recorded in Ambala and Sirsa districts.

There exists no significant inter-district disparities among the households who get unprotected drinking water inside the houses. Highest percentage of households falling in this category (3) has been found in Rohtak district while the lowest percentage of 1 is found in Bhiwani district. In all the remaining districts only 2% households get unsafe drinking water inside the houses.

It may be concluded from the above discussion that households in the districts of Karnal, Ambala, Kurukshetra, Sonipat and Gurgaon have comparatively better drinking water facilities, as more than 60% households in these districts get safe drinking water inside the houses as reflected in figure No. 10. On the contrary drinking water facilities have been found very unsatisfactoryin the districts of Bhiwani, Mahindergarh, Jind and Hissar because a large proportion of households in these districts get drinking water outside the houses. (Fig.10)

Rural - Urban Disparities

As is expected the availability of basic amenities is more in urban areas as compared to rural areas because of the developed infrastructure and this fact is supported by the data in table III 2 & 3. It shows that for the state as a whole, percentage of households to whom protected drinking water inside the house is available in 59 as compared to only 12.4 in rural areas. The

great disparities between rural and urban areas in respect of the availability of drinking water are reflected in the fact that where as a majority of households (57%) in rural areas get unprotected drinking water, the percentage of household falling in this category is less than 10 in the urban area of the state.

Rural urban disparities are comparatively high in the categories of households who get unprotected drinking water outside the houses and those who get protected drinking water inside the houses. These are relatively low in thecategory of households who get protected drinking water outside the houses. There exists negligble rural-urban disparities among the householdswhom unprotected drinking water inside the houses is available. However, rural urban disparities are more prominent in the districts of Jind, Rohtak & Faridabad as compared to their counterparts.

ELECTRICITY

T A B L E III. 4

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF ELECTRICITY

(Total Haryana, household in percentage)

State/Distt	Available	Not Available
Haryana	51.53	48.47
Ambala	60.88	39.12
Kurukshetra	46.48	53.52
Karnal	53.48	46.52
Jind	40.83	59.17
Sonipat	51.77	48.23

State/Distt.	Available	Not available
Rohtak	56.92	43.08
Faridabad	60.26	39.74
Gurgaon	43.93	56.07
Mahindergarh	32.37	67.63
Bhiwani	47.1	52.90
Hissar	53.94	46.06
Sirsa	60.29	39.71

The above table provides information about the distribution of householdby the availability of electricity in the state and districts.

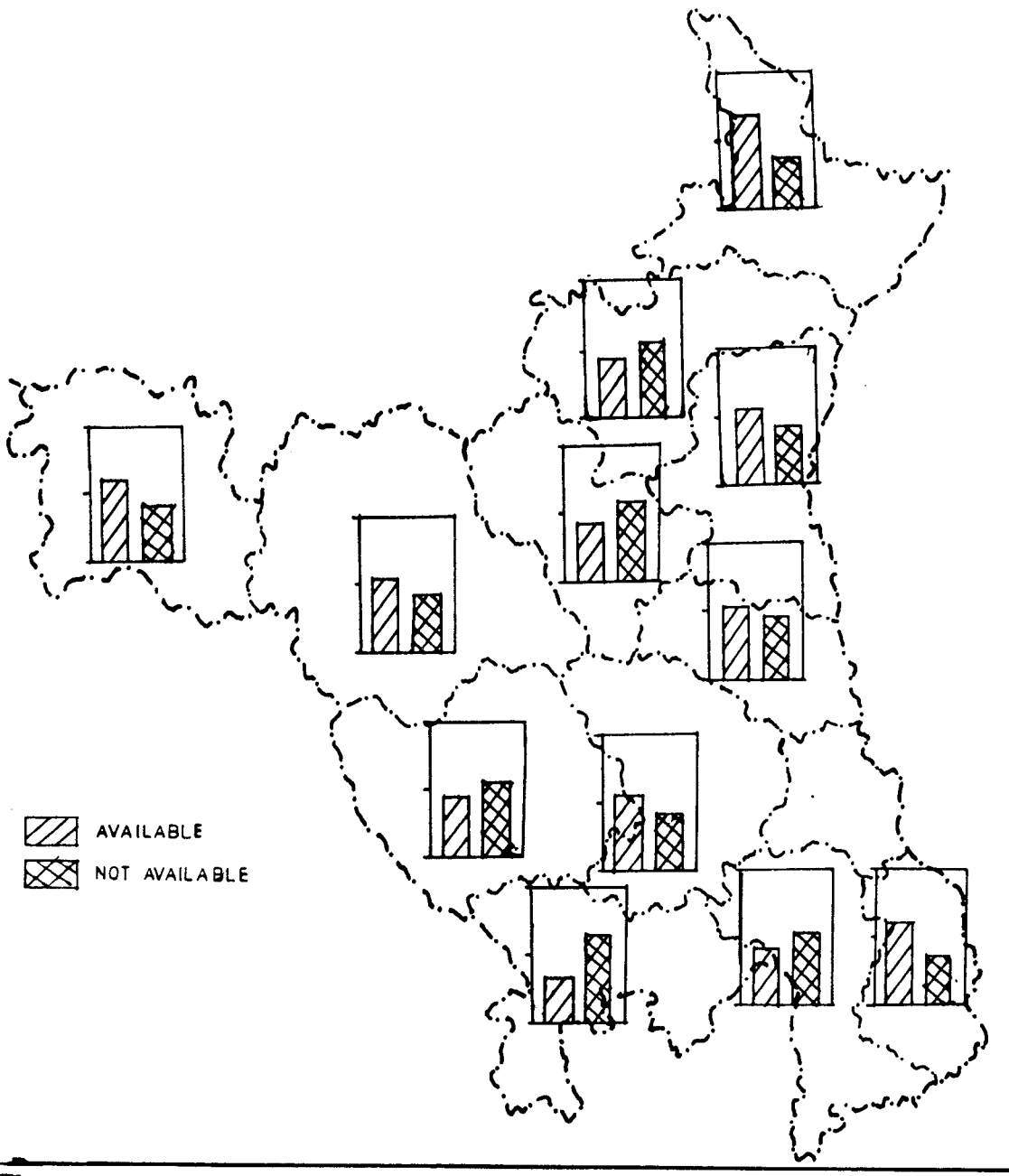
It reveals that in the state as a whole, electricity is available to only 51.53% households while a significant proportion of households 48.47 does not have the availability of powerat all.

Among the districts, highest percentage of households getting power supply has been found in Ambala district (60.88) followed by Sirsa (60.29) and Faridabad (60.26). On the contrary Mahindergarh district has the lowest percentage of households (32.37) to whom electricity facilities are available. However, percentage of households getting power supply is below the state average in the districts of Mahindergarh, Jind, Gurgaon, Kurukshetra and Bhiwani.

It may be noticed from the above discussion that households in the districts of Ambala, Sirsa, Faridabad and Rohtak are in a better position so far as the availability of electricity

FIG.11

HOUSEHOLDS BY AVAILABILITY OF ELECTRICITY (IN PERCENTAGE) TOTAL



facilities are concerned as reflected in Figure 11.

The districts of Mahindergarh, Jind and Gurgaon show a very deficient electricity facilities available to the households. However the availability of electricity facilities in not extremely deficient in the districts of Hissar, Karnal and Sonipat as a majority of the households in these districts enjoy power supply. (Fig.10)

Higher percentage of households getting electricity facility in Ambala and Faridabad districts is due to the high urbanization and industrialization of these districts. Faridabad has the highest percentage of urban population (71) followed by Ambala (33)[2] and it is a general fact that infrastructure facilities are more developed in urban areas which explains the high percentage of households getting electricity supply in these districts. Sirsa district has the highest percentage of scheduled castes population (25) among the districts. As these are poor people, government has taken special measures to provide them electricity connections. That is why Sirsa, instead of being a comparatively backward district in respect of both agriculture and industry, has a very high percentage of households enjoying electricity supply.

In the districts of Mahindergarh and Jind a large proportion of population lives in villages. Economically also,

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2. Census of India,1981, A portrait of population, Haryana p.37,38

these are underdeveloped districts. For instance gross value from agriculture per hectare is lowest (Rs2527) in Mahindergarh district.[3] All these factors explain the comparatively low percentage of households receiving electricity facilities in these districts. However, the low percentage of households getting power supply in Gurgaon district is also due to its backwardness.

T A B L E III. 6

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILBILITY OF ELECTRICITY

(Rural Haryana, Households in percentage)

State/Distt	Available	Not available
Haryana	41.04	58.96
Ambala	44.69.	55.31
Kurukshetra	37.86	62.14
Karnal	40.68	59.32
Jind	34.33	65.67
Sonipat	43.8	56.2
Rohtak	48.46	51.54
Faridabad	44.3	55.7
Gurgaon	32.93	67.07
Mahindergarh	24.93	75.07
Bhiwani	33.88	66.12
Hissar	45.77	54.23
Sirsa	55.77	44.23

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3. Statistical Abstract of Haryana 1981-82
Selected indications for the state.

FIG.12

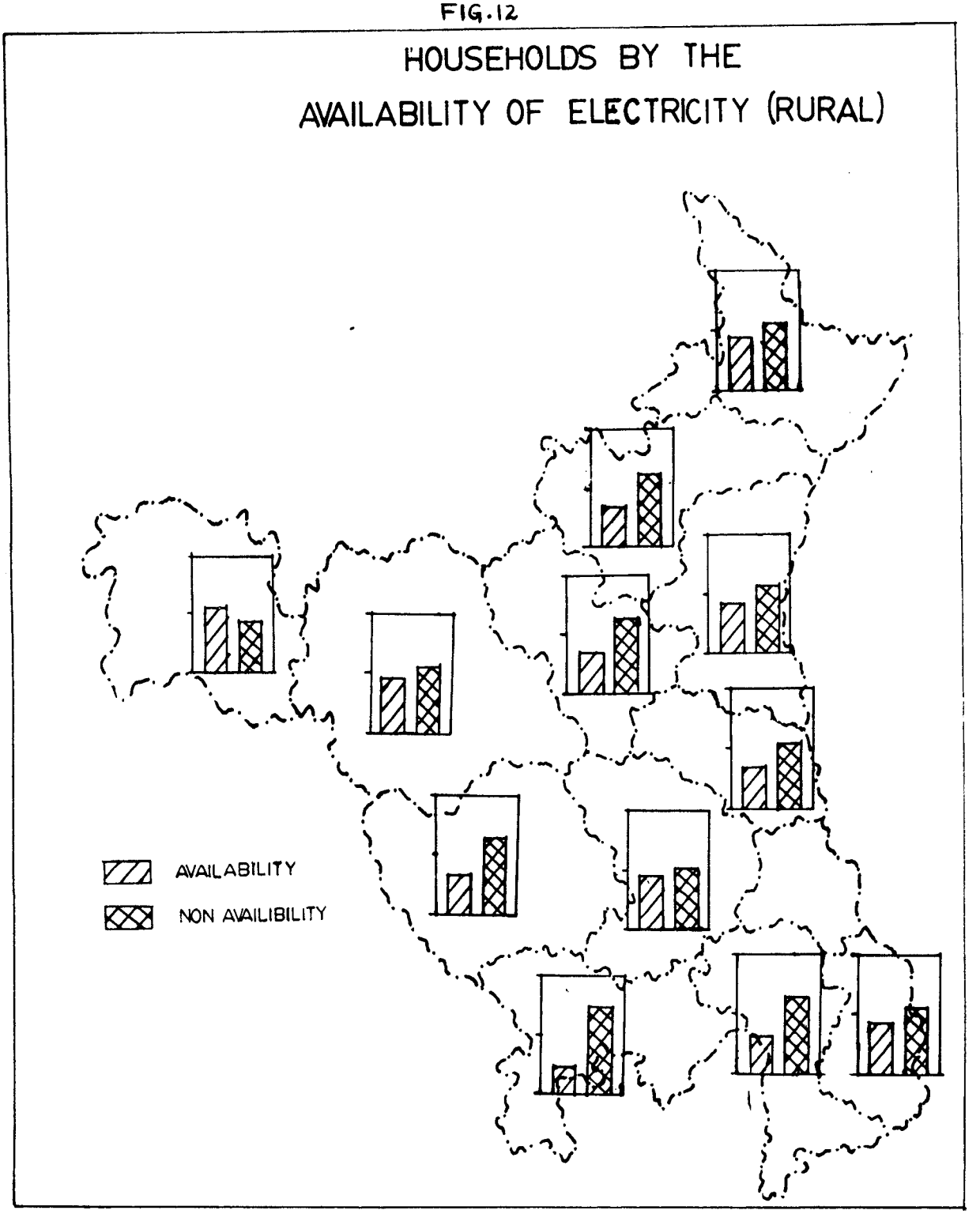

HOUSEHOLDS BY THE
AVAILABILITY OF ELECTRICITY (RURAL)
AVAILABILITY
NON AVAILIBILITY

Table III.5 gives information about the distribution of household according to the availability of electricity facilities in the rural area of the state and districts.

It is clear from the data in the table that availability of electricity facilities is very unsatisfactory in the rural area of the state as a significant majority of the households (59%) does not have the availability of electricity at all. In the state as a whole only 41% household have the availability of power.

Among the districts highest percentage of households getting power supply has been found in Sirsa district (55.77), followed by Rohtak (48.46), Hissar (45.77), Ambala (44.69), Faridabad (44.3) and Sonipat (43.8). Mahindergarh district has the lowest percentage of households to whom electricity facilities are available (24.93). percentage of households getting power supply is below the state average of 41.04 in the districts of Mahindergarh, Gurgaon, Bhiwani, Jind, Kurukshetra and Karnal.

From the above discussion it may be noticed that so far as households enjoying electricity facilities are concerned, the position of Sirsa, Rohtak, Hissar, Ambala and Faridabad districts is comparatively better. On the other hand, the position of households in respect of availability of power, is very unsatisfactory in the districts of Mahindergarh, Gurgaon, Jind, Kurukshetra and Bhiwani, as a very significant proportion of households (above 60%) does not have the availability of electricity at all as seen in figure II. . .

T A B L E III. 6

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF ELECTRICITY FACILITIES (Haryana Urban, percentage of household)

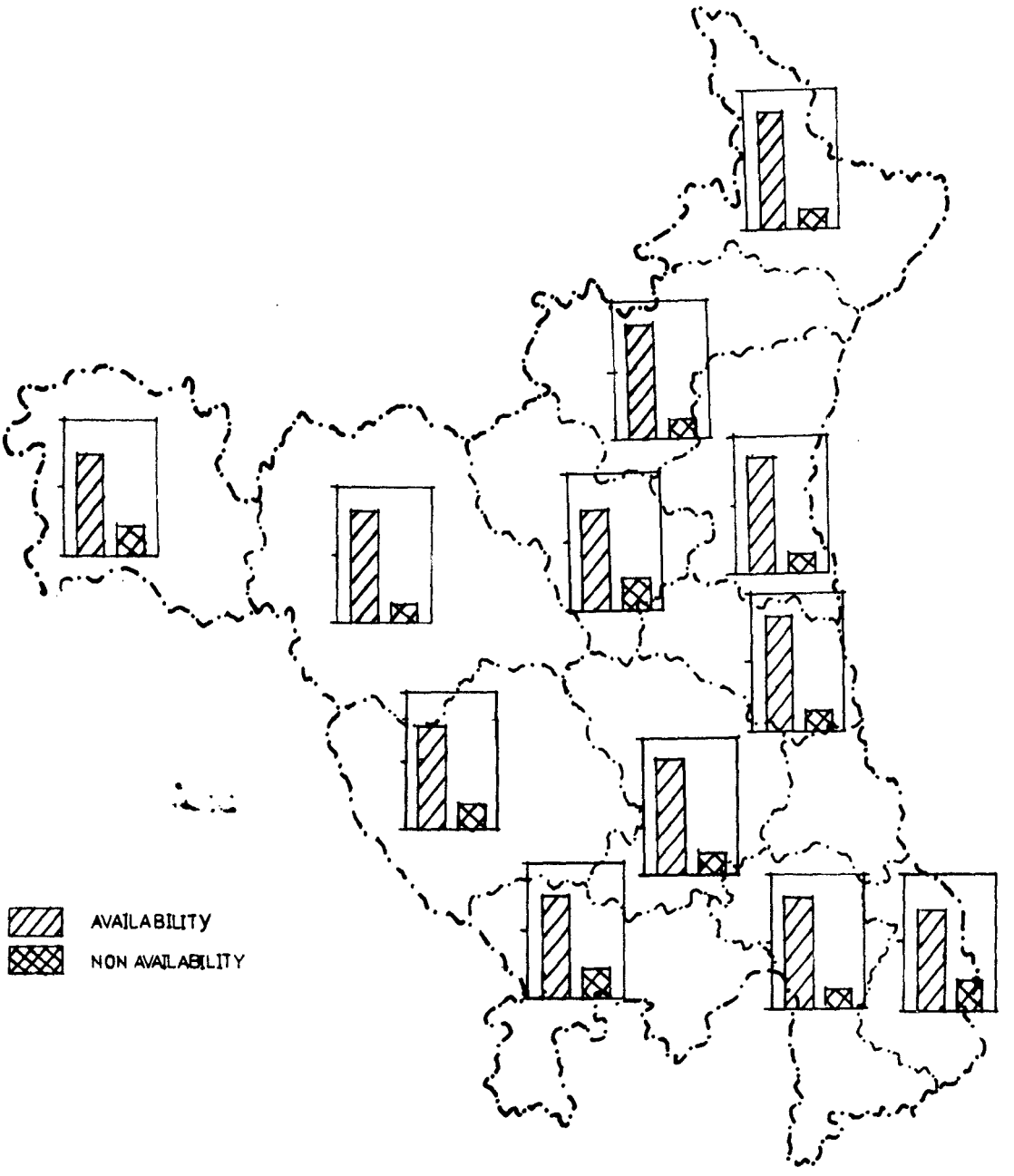
State/Distt.	Available	Not available
Haryana	82.22	17.78
Ambala	87.07	12.97
Kurukshetra	83.80	16.20
Karnal	84.66	15.34
Jind	76.40	23.6
Sonipat	82.53	17.47
Rohtak	85.90	14.10
Faridabad	76.49	23,51
Gurgaon	81.82	18.18
Mahindergarh	78.83	21.17
Bhiwani	82.24	17.76
Hissar	82.87	17.13
Sirsa	76.09	23.91

Above table III.6 gives the distribution of households by the availability of electricity facilities in the urban areas of the state /districts.

It reveals that highest percentage of households enjoying electricity facilities is in Ambala district (87) while the lowest percentage of 76 has been found in Sirsa district. Percentage of housebols to whom electricity facilitels are available is above the state average of 82.22 in the districts of Amabla, Sonipat (82.53), Rohtak (85.9), Kurukshetra (83.8), Karnal (84.66), Sonipat (82.53), Bhiwani (82.24) and Hissar (82.87).

FIG.13

HOUSEHOLDS BY THE AVAILABILITY OF ELECTRICITY
(IN PERCENTAGE) URBAN



Comparatively low percentage of households getting power supply has been recorded in the districts of Jind (76.4) Faridabad (76.49), Mahindergarh (78.83) and Gurgaon (81.82). However, it is clear from the data in table III.6 that inter-district disparity in respect of the availability of electricity facilities to the households, are not much significant in the state of Haryana.

It may be concluded from the above discussion that households in the districts of Ambala, Rohtak, Karnal and Kurukshetra have comparatively better availability of electricity facilities on an average while the position of households is much unsatisfactory in the districts of Sirsa, Faridabad, Jind and Mahindergarh as more than 20% households in these districts do not have the availability electricity at all as reflected in fig.IS.

Sirsa, Mahindergarh and Jind districts are comparatively underdevloped in respect of both agriculture and industry while low percentage of household getting power supply in Faridabad district reflects the existence of slums which may be attributed to the high level of industrialization.

Rural Urban Disparities

It is clear from the data in table 3.5 and 3.6 that the percentage of households to whom electricity is available is more than double in urban areas as compared to rural areas. It is seen that in Urban areas more than 82 percent households get power supply while this percentage of households is only

41 in the rural areas of the State. Among the districts also, very high rural-urban disparities are reflected in the fact that in the rural areas, a significant majority of households in all the districts except Sirsa, does not have the availability of electricity at all while in Urban areas situation is absolutely opposite, as more than 75 percent households get power supply in the urban areas of all the 12 districts of the State.

However, there exists comparatively high rural urban disparities in the districts of Mahindergarh, Gurgaon., Bhiwani and Jind.

TABLE III.7

DISTRIBUTION OF HOUSEHOLDS BY THE AVAILABILITY OF TOILET FACILITIES (Haryana Urban)

(Households in Percentage)

STATE/DISTRICT	AVAILABLE	NOT AVAILABLE
Haryana	58.1	41.9
Ambala	69.56	30.44
Kurukshetra	63.69	36.31
Karnal	66.25	33.75
Jind	45.22	54.78
Sonipat	57.69	42.31
Rohtak	59.40	40.60
Faridabad	51.39	48.61
Gurgaon	53.54	46.46
Mahindergarh	44.42	55.58
Bhiwani	55.34	44.66
Hissar	51.13	48.87
Sirsa	55	45

The above tables III.7 gives the percentage of households by the availability of toilet facilities in the urban areas of the state and districts.

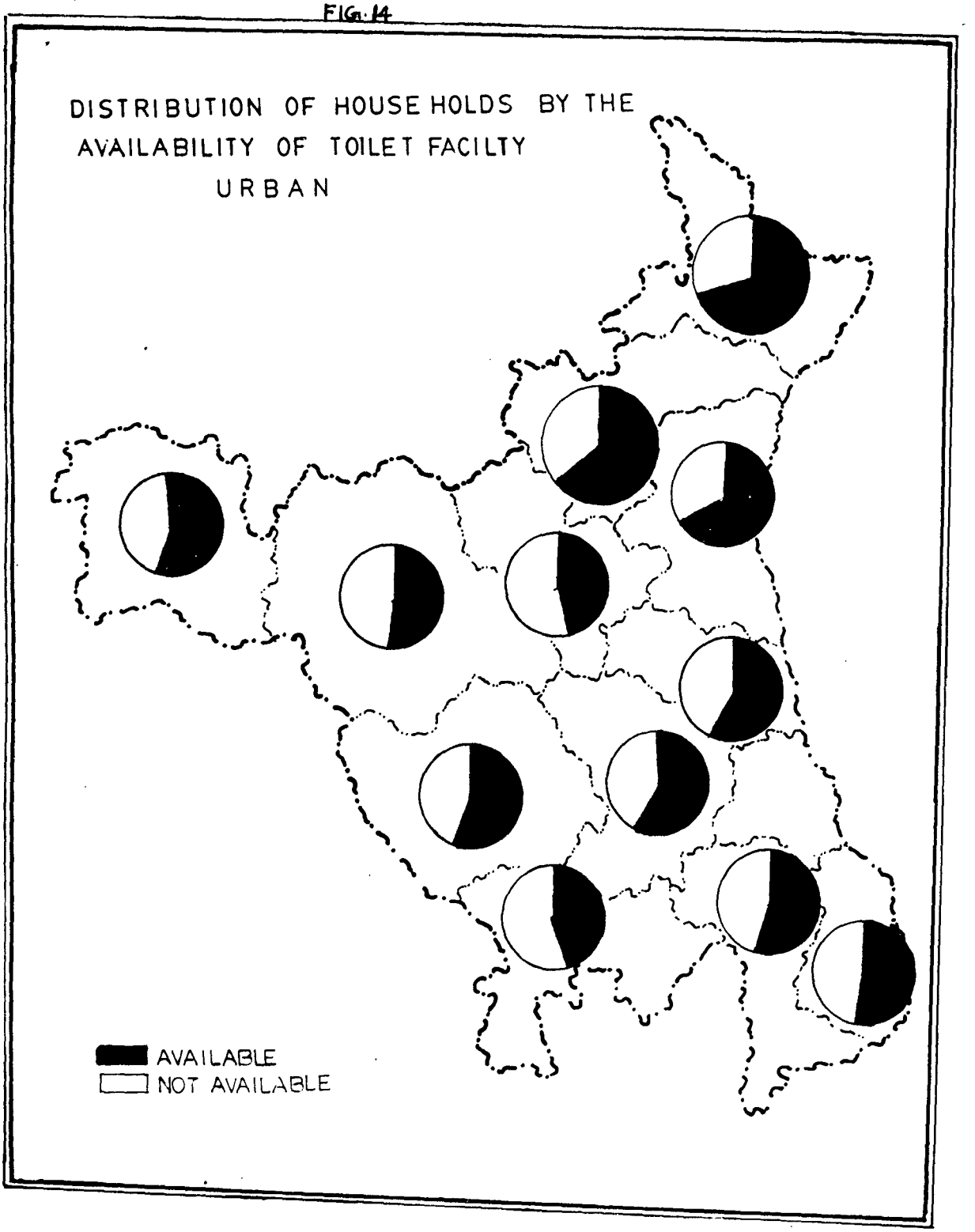
It reveals that in the state as a whole, toilet facilities are available to only 58% households and that significant proportion of households (42%) do have the availability of toilets of any type. It reflects the great lack of basic amenities like toilets in the urban areas of the state. Theproblem is more intensified by the fact that like rural areas there is not much open space such as fields or wasteland ,in the urban areas which can be used as lavatory , thus, prevails very unhygenic environment in towns.

Among the districts, highest percentage of households with the availability of toilet facilities has been found in Amabala (69.56) followed by Karnal (66) and Kurukshetra (63.69). On the contrary Mahindergarh district has the lowest percentage of households (44.42) to whom toilet facilities are available. Besides Mahindergarh, the percentage of household occupying toilets of any type, is comparatively low in the districts of Jind (45.22), Hissar (51) Faridabad (51.39) and Gurgaon (53.54).

From the above discussions it would be noticed that among the districts so far as the households availing toilet facilities are concerned, the position of Ambala, Karnal, Kurukshetra, and Rohtak is not extremely deficient. The position of households in this respect, is very unsatisfactory in the districts of Mahindergarh, Jind,Hissar, Faridabad and Gurgaon.

Where as, Mahindergarh and Jind are the most underdeveloped districts in the state, a high percentage of households without

FIG. 14


DISTRIBUTION OF HOUSE HOLDS BY THE
AVAILABILITY OF TOILET FACILTY
URBAN
AVAILABLE
NOT AVAILABLE

toilet facilities in the districts of Faridabad and Gurgaon is due to the effect of industrialization which results in the existence of slums, where no basic amenities are available . However in Hissar also, it can be attributed to the coming up of new industries to extent.

Summary:-

This chapter has a focus on the availability of basic amenities e.g. drinking water, electricity facilities and toilet facilities to the households of Haryana.

The nature and value of any house is detemined by the facility it gives. The inadequacy of essential amenities causes serious discomforts to the households. But unfortunately quite a large section of people all over the world, in India as well as in Haryana run short of meeting these essential requirements.

It has been found that a very significant proportion of household (44%) consume unsafe drinking water in the state. Moreover, 43% among them get it outside their houses. Inadequate drinkingwater facilities in the state are reflected in the fact on an average less than one fourth of its households receive safe drinking water inside the houses. In some districts like Mahindergarh and Bhiwani more than 90% households have to bring drinking water outside their houses. The situation is more deficient in rural areas where a majority of the household get unsafe drinking water outside their houses. In some districts like Jind and Rohtak more than 80% household use unsafe drinking water which they have to bring from outside their houses.

So far as the availability of electricity is concerned, the situation is no better. In the state as a whole, more than 48% households do not have the availability of electricity. Among the districts, the percentage of households who don't havethe availability of electricity varies between 39 to 68 percent. In the rural areas position is extremely unsatisfactory. In some areas like Mahindergarh district more than 75% household do not have the availability of power at all.

In urban areas households faces a great scarcity of basic amenities like toilets. A very significant proportion of households (more than 40%) do not have the availability of any kind of toilets in the urban areas of the state. This problem has been found more intense, either in comparatively underdeveloped district like Mahindergarh and Jind or in developed and industrialised districts like Faridabad. It can be concluded that in general, households face a great scarcity of basic amenities in the state, the position in rural area is extremely unsatisfactory.

CHAPTER - IV

QUALITY OF HOUSING INDEX AND ITS SOCIO-ECONOMIC CORRELATES

As it has been discueesed in the methodology part of first chapter, districtwise housing quality in totality has been analysed with the help of quality of housing index (QHl). In order to prepare quality of housing index, five indicators discussed in previous chapters, have been used. These indicators are:-

i) quality of houses (by the building material)

ii) Density of persons in rooms.

iii) Drinking water facilities

iv) Electricity facilities

v) Toilet facilities (for urban only)

Inspite of the above mentioed five indicators, a sixth indicators e.g. privacy was also considered but it was excluded later on due to the non availability of adequate ready data on privacy.

In order to prepare quality of housing (QHl), two types of weightage have been utilised viz.,

1) Main Weightage

2) Sub Weightage

Main Weightage

Although all the five indicators mentioned above, are of major importance in respect of the quality of housing, relative importance may vary from one place to another as well as from one person to another. For instance, some people may prefer houses built with good and durable building material, even if, the number of rooms is very less than the number of

living persons. In the same way some may feel that availability of drinking water is more important for them than the availability of electricity and vice versa.

To know people's preference about the relative importance of the above mentioned indicators, a small survey of 25 people each for rural and urban areas was conducted in which each person was asked to distribute the total weightage of 100 among the indicatorsof quality of housing, according to the importance of each indicators given to that. Later on average of the weightages, given to each indicator, by the respondents, was calculated.

As it has been mentioned that the last indicator e.g. privacy which was suggested to include in the indicators of quality of housing but was excluded in the later stage due to the non availability of adequate date; the weightage given to it was distributed proportionately among the remaining five indicators. The average weightage assigned to these five indicatros are considered as Main weightage.

Sub Weightage:

Sub weightages have been given to the variables related to each respective indicator. In order to assign sub weightages, the principal followed is: higher the quality, higher the weightage.

Table IV.1 below provides information about the indicators variation related to indicators and Main and Sub Weightages assigned to them.

T A B L E IV. 1

Indicator	Symbol	Main Weightage assigned to indicators		Variables of Indicator	Symbol	Sub Weighatage.
		Rural	Urban			
1. Quality of Houses (According to building material)	A1.	31.57	27.56	1. %age of house holds living in pucca houses	a1	5
				2. %age of households living in Semi pucca III houses.	a2	4
				3. % age of households living in semi pucca II houses.	a3	3
				4. % age of households living in semi pucca I houses.	a4	2
				5. % age of nouseholds living in kutcha houses	a5	1
2. Density of persons ibn houses. (in respect of persons per room)	A2	16.83	17.17	1. % age of households less than 1 person per room	a6	5
				22 % age of households having 1 to 2 persons per room	a7	4
				3. % age of households 2 to 3 persons per-room.	a8	3
				4. % age of nouseholds having 3 to 4 persons per room.	a9	2
				5. %age of nouseholds having 4 & above persons per room.	a10	1

1	2			3		4
3. Drinking water facilities	A3	33.91	20.80	1. % age of households getting protected drinking water inside houses.	a11	4
				2. % age of households getting protected drinking water outside house.	a12	3
				3. %age of households getting unprotected drinking water inside houses.	a13	2
				4. % age of households drinking water outside the houses.	a14	1
4. Electricity facilities	A4	17.69	17.90	1.% age of households to whom electricity is available	a15	1
				2. %age of households to whom electricityis not available.	a16	0
5. Toilet facilities	A5	-	16.57	1.%age of households to whom toilet facilities are available	a17	1
				2. % age of households to whom toilet facilities are not available	a18	0

Note:- a) Data on percentage of households falling in each of the aboe mentioned categories of variables has been discussed in Chapter II & III.

b) In the initial stage of the study, it was planned toclassify houses into five categories but later on houses have been classified into four categories by excluding Semi Pucca III.

After assigning the above mentioned weightages to the indicators and variables the quality of housing index has prep-red by the following formula.

$$\left[\left(\sum_{i=1}^{n} \frac{Sw \times a}{\Sigma sw}\right) A\right]$$

SW = Sub Weightage
a = Variables
A = Main Weightage

Observation

The table given below provides information about the quality of housing index (QHI) in the rural and urban areas of each district and the state.

TABLE IV. 2

QUALITY OF HOUSING INDEX

State Distt.,	Quality of Housing Index Rural	Urban
Haryana	2230	4161
Ambala	2377	4481
Kurukshetra	2234	4228
Karnal	2322	4314
Jind	1839	3746
Sonipat	2215	4175
Rohtak	2190	4224

State / Distt.	Quality of Housin Index Rural	Urban
Faridabad	2164	3939
Gurgaon	1964	4180
Mahindergarh	2064	3981
Bhiwani	2308	4144
Hissar	2325	4009
Sirsa	2617	3947

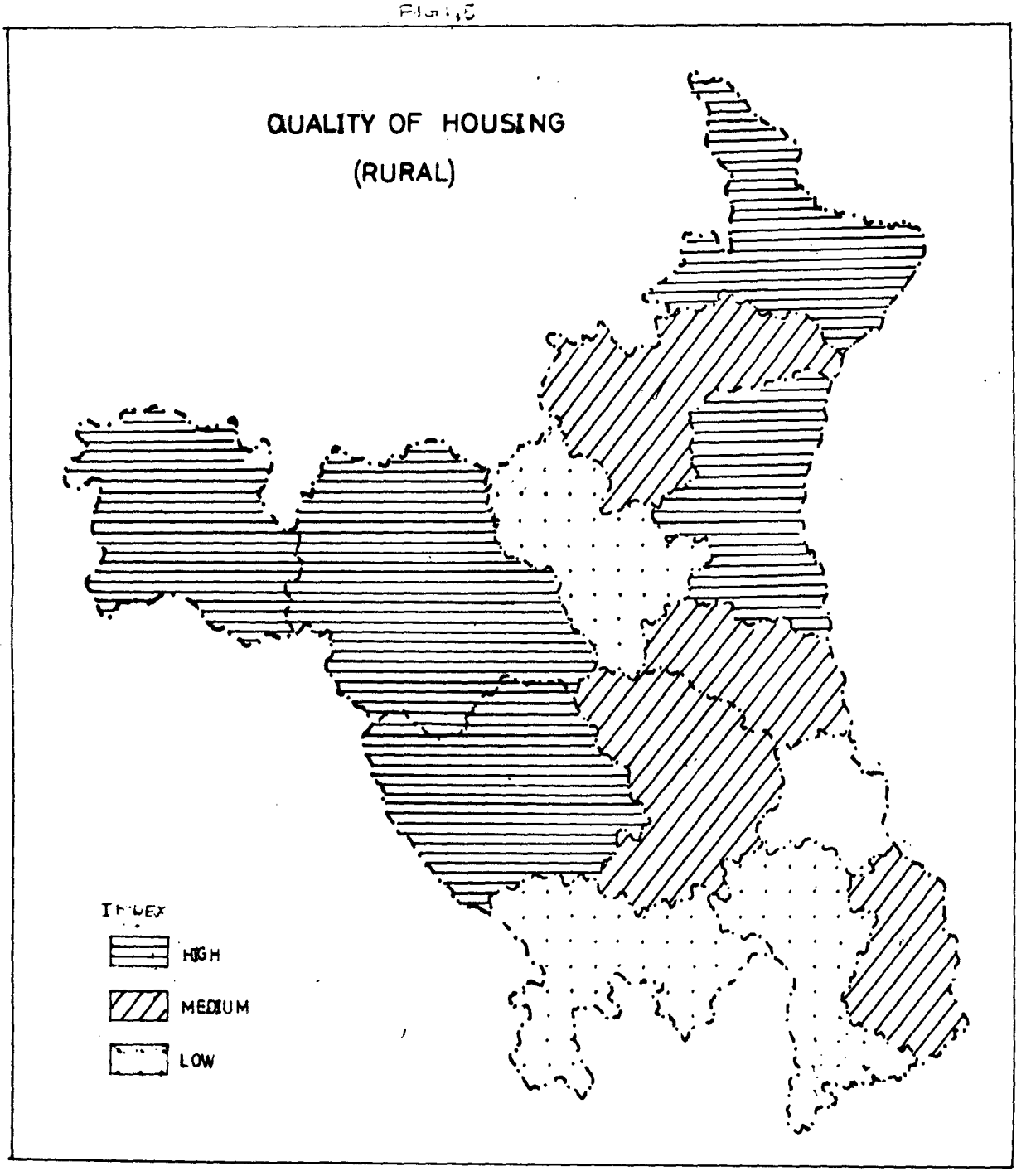
Note:- Index has been presented in rounded whole numbers. Differences of points between districts are treated as relatively insignificant.

QUALITY OF HOUSING IN RURAL AREAS:-

Above table reveals that quality of housing index for rual areas is 2230 for the state as a whole. The districts can be arranged in decending order, according to their quality of housing as reflected in the index as Sirsa (QH1) 2617, Ambala (QH1 2377), Hissar (QH1 2325), Karnal (QH1 2322), Bhiwani (QH1 2308), Kurukshetra (QH1 2234) Sonipat (QH1 2215) Rohtak (QH1 2190) Faridabad (QH1 2164), Mahindergarh (Qh1 2064) Gurgaon (1964) and Jind (QH1 1839)

Keeping in view the quality of housing index, districts may be classified into three categories according to their quality of housing. QH1 above 2300 may reflect the districts with high quality of housing. While QH1 below 2100 denotes

Fig. 5



the low quality of housing. QHl between 2100 and 2300 displays medium quality of housing.

According to this classification in the rural areas of the state, the districts of Sirsa (2617), Ambala (2377), Hissar (2325), Karnal (2322) and Bhiwani (2308) have high quality of housing while Mahindergarh (2064), Gurgaon (1964) and Jind (1839) districts have low quality of housing. It has been found medium in the districts of Kurukshetra (2234), Sonipat (2215) Rohtak (2190) and Faridabad (2164) districts in the rural areas of the state.

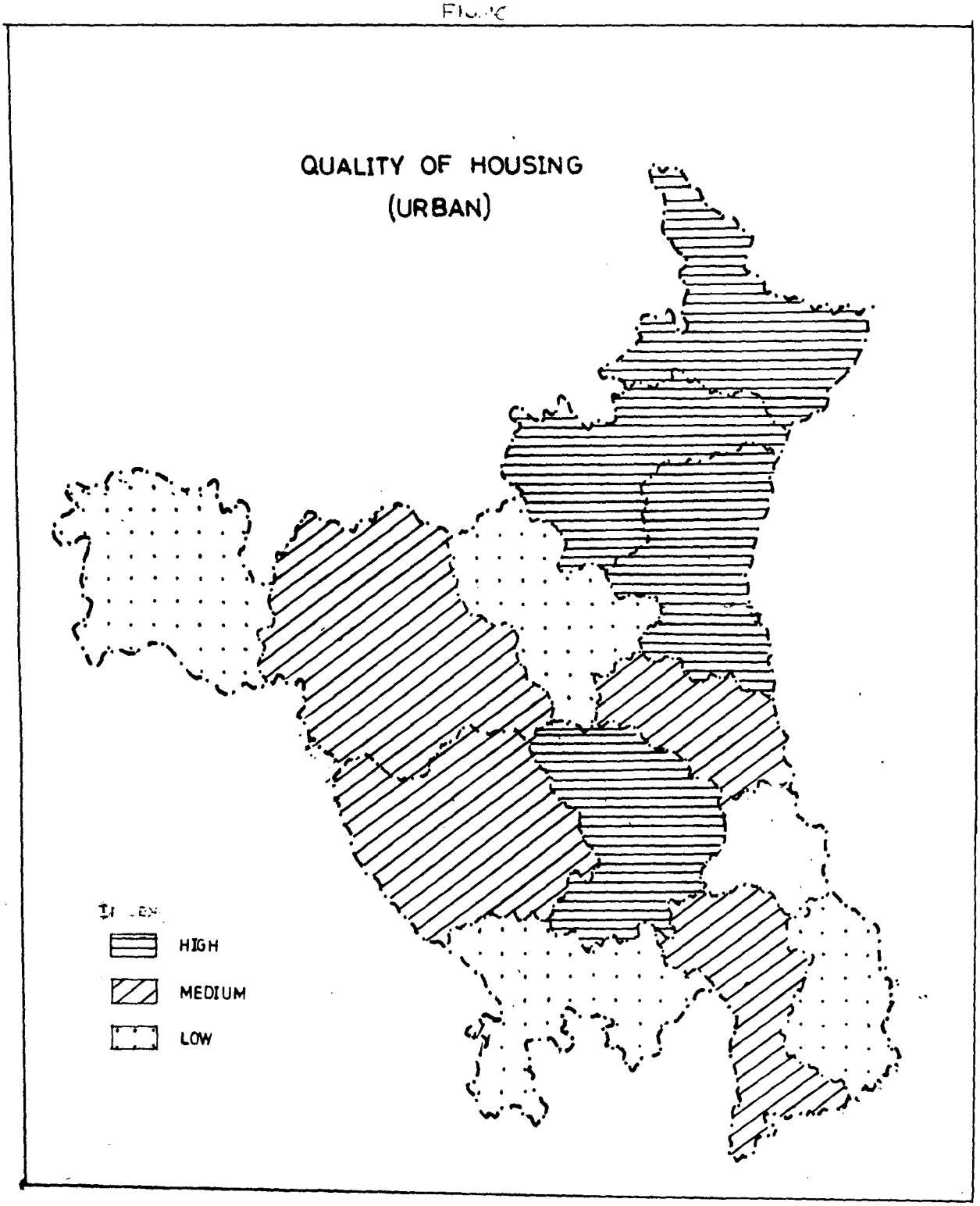
Quality Housing in Urban Areas:-

Table IV.2 also provides information about the quality of housing index for urban areas. It reveals that quality of housing index for urban areas is 4161 for the state as a whole. Among the districts, Ambala has the highest (4481) index while the lowest quality of housing index has been found in Jind district (3746)

Here also districts can be classified into three categories, depending upon their quality of housing. Districts with QHl more than 4200 are considered as having high quality of housing while the medium quality of housing includes all the districts with QHl between 4000 and 4200. QHl below 4000 denotes the districts having low quality of housing.

According to above classification the districts of Ambala (4481), Karnal (4314), Kurukshetra (4228) and Rohtak

FIG. 'C



(4229) have the high quality of housing while Mahindergarh (3981), Faridabad (3939), Sirsa (3947) and Jind (3746) districts have low quality of housing. Quality of housing has been found medium in the districts of Gurgaon (4180), Sonipat (4175) Bhiwani (4144) and Hissar (4009).

It is clear from the above discussions that Ambala and Karnal districts have high quality of housing in both rural and urban areas while Jind and Mahindergarh have low quality of housing in both the areas. In the districts of Hissar and Bhiwani, quality of housing has been found high in rural areas and medium in urban areas. Contrary to this, in the districts of Rohtak and Kurukshetra, quality of housing is high in urban areas and medium in rural areas. However, in Sonipat district quality of housing is medium in both rural and urban areas. It has been found medium in rural areas and low in urban reas in Faridabad district and low in rural and medium in urban areas in Gurgaon district.

Highest rural-urban disparities in respect of quality of housing, has been recorded in Sirsa district where it has been found very high in rural areas and very low in urban areas.

On an average, quality of housing is far better in urban areas as compared to rural areas in the state as reflected in QHI.

CORRELATION AND REGRESSION ANALYSIS:-

The quality of housing can not be regarded self-explanatory rather it is dependent on a number of factors. In this part of the chapter relationship between quality of housing and some of its explanatory variables has been analysed through correlation technique and stepwise regression analysis. In the study of stepwise regression, it is analysed how the parameters get changed when every new explanatory variable is added one by one in the model.

List of the variables used in the study has been given below:-

LIST OF VARIABLES:

Quality of housing index (total) is the major variable (dependent variable) considered in this analysis. It is symbolised by Y and method of its measurement has been discussed in the first part of this chapter.

List of independent or explanatory variables as well as their measurements has been given below:-

Variables	Measurements
1. Agriculture (X1)	Gross value from agriculture per ~~capita~~ hectre in rupees.
2. Urbanization (X2)	Percentage of urban population to total population.
3. Density (X3)	Density per Sq.Km.
4. Literacy (X4)	Percentage of literates to total population (including population in age group 0-4)

Variables	Measurements
5. Employment (x5)	Percentage of main workers to total population
6. Scheduled Caste population (X6)	Percentage of scheduled caste population to totalpopulation.
7. National Resources (X7)	Area under forest Sq.Km.

Data related to above mentioned variables have been given in appendix.

T A B L E IV .3

ZERO ORDER CORRELATION COFFICIENT OF THE VARIABLES: HARYANA

	Y	X1	X2	X3	X4	X5	X6	X7
Y	1.000	.166	.765	.143	.402	.455	.410	.423
X1		1.000	.193	.324	.033	.463	.224	.246
X2			1.000	.616	.481	.404	.012	.405
X3				1.000	.688	-.126	-.523	.187
X4					1.000	-.387	-.287	.488
X5						1.000	.495	.095
X6							1.000	.406
X7								1.000

From the correlation table, two relations can be found out. First, the correlation that exists within the indepednt variables, and secondly the correlation that exists between dependent and independent variables. Here each of the relationship has beenexamined separately.

Correlation within the independent variables:-

While looking at the correlation that exists within the independent variables, it has been found that all the variables have the expected relationship between them. For instance, we can point that if higher the urbanization, higher will be the literacy, employment and density in the concerned area, after positive relationship that exists between the agricultural production and density as expected is also clearly brought out by the results. However, the positive relation between urbanization and natural resources, and the negative relation between literacy and employment, which is opposite to the general expectations need further consideration. Though density also has a positive correlation with natural resources but it is very insignificant.

CORRELATION BETWEEN DEPENDENT AND INDEPENDENT VARIABLES

Except the variables density and scheduled caste population other vaiables have the relation with the dependent variables in the expected pattern. For instance, the agricultural production employment and natural resources have a postive relationship with the quality of housing. Among the other independent variables,

Urbanization (.765) exerts a high relation (positive) with the quality of housing, which explains that higher the quality of urbanization, higher will be the quality of housing. Literacy also shows a positive relationship. Stepwise regression analysis has been discussed below:

TABLE IV.4

RESULT OF ANALYSIS

Variable	Regression coefficient	T Value	R^2	Increase in R^2	$\bar{R}^2$	F
STEP I						
X2	29.29873	3.751*	.585	- - -	.585	14.669*
STEP II						
X2	33.22368	4.253*				
X3	-1.33466	-4.337**	.758	.173	.754	14.074*
STEP III						
X2	31.92904	6.421*				
X3	-2.38267	-4.162*	.869	.111	.840	17.723*
X4	20.41365	2.611**				
STEP IV						
X2	31.74596	7.861*				
X3	-2.80350	-5.600*	.925	0.56	.896	21.444*
X4	24.56541	3.718*				
X X1	.04403	2.266**				
STEP V						
X2	35.47403	12.106*				
X3	-3.43658	-8.848*	.972	.047	.955	40.937*
X4	35.01609	6.366				
X1	.06348	4.439*				
X7	-.44585	-3.146**				
STEP VI						
X2	33.56431	10.740*				
X3	-2.99131	-5.992*				
X4	34.98309	6.735*	.979	.007	.961	38.545*

1	2	3	4	5	6	7
X1	0.05319	3.408**				
X7	-.552410	-3.578**				
X6	12.19076	1.315				
STEP VII						
X2	32.83991	5.318*				
X3	-2.96922	-5.1377*				
X4	35.48889	5.220*	.979	0	.954	26.567*
X1	.05152	2.453***				
X7	-53524	-2.954**				
X6	15.13946	1.068				
X5	-1.98614	-.073				

* 1% level of significance

** 5% level of significance

*** 10% level of significance

The results of the regression analysis reveal that the value of R^{-2} decreases after the VI step. Hence it is better not to carry out the analysis beyond this step. At thisstep i is noted that 96% of the variation in the dependent variable has been examined by variables, Agricultural production, urbanization, Density,Employment, Sechdduled Caste population and natural resources. This is also supported by the high significant F Value. The regression which shows the maximum variation is given below:-

Quality of housing = 1151.230 33.564 2
10.740
- 2.991 3
(- 5.992)

34.983 4 0.5319 1
(6.735) (3.408)

- .52410 7 12.190 6
(-3.578), (1.315)

R^{-2} = .961 F = 38.545

Note .... XI ..... X7 refers to the variables as mentioned earlier.

Figures in brackets represent the reppective 't' values.

While looking at the individual effect of the variables on the quality of housing, it has been found that the variable literacy has the highest regression coffieicent than other variables. It explains that if the literacy increases by one unit then there would be an increase of 35 units in the quality.

of housing which supports our hypothesis that higher the literacy in one area higher willbe the quality of housing. in that area. Similarly Urbanization if increased by one unit then the quality of housing willincrease by 34 units which is also in the expected pattern. The negative relationship between density and the quality of housing is also clearly brought out in the results. This variable is also statistically significant to explain the variation in the dependent variable. The positive relationship of scheduled caste population with the quality of housing, may be due to the special steps taken by the government in order to improve their quality of living by providing them electricity connection, drinking water facilities as well as financial assistance to build the houses. The statistical significance of agricultural production and the statistical insignificance of natural resources (forest area) on the quality of housing also supports with our hypothesis that higher the agricultural production, higher will be the quality of housing and higher the forest area, higher will be the proportion of houses made of non durable materials.

To Summarise, all the selected variables, except S.C. population are statistically significant to explain the variations in Quality of housing. Whereas, urbanization, density and literacy have been found significant on 1% level of significance, agricultural production and material resources are significant on 5% level of significance.

CONCLUSION

This work was developed to examine the quality of housing and household amenitiesin Haryana with the help of districtwise data. It also prepared districtwise quality of housing index and studied its relationship with some Socio-Economic and demographic variables which are supposed to affect the housing condition of any society. As the study concerned all the districts in Haryana and analysed the housing condition, separately for rural and urban areas, Secondārydata mainly provided by the official agencies have been used.

Before discussing the quality of housing and household amenities in Haryana, the basic trends and conditions of housing have been identified and highlighted at the national level. Quality of housing index has been prepared from different indicators of housing and basic amenities by assigning them different weightage. provided by a small survey of households. Finally the relationship between quality of housing index and some selected variables have been analysed.

Following are the main findings of this study

(1) A majority of the households in the state, dwells in kutcha houses and semi pucca I houses which are made of improper and non durable building materials, However, the position is comparatively better in the districts of Mahindergarh, Bhiwani, Faridabad, and Gurgaon, where a good majority of households live in pucca or semi pucca II houses which are built with durable building materials.

(2) The condition of dwelling units is far better in urban areas as compared to rural areas. In the urban areas, of the state majority of households dwell in pucca houses while in the rural areas a very insignificant proportion of households (12%) live in these houses. However the percentage of households dwelling in semi pucca II house, is almost same in both rural and urban areas. The higher rural urban disparities in respect of quality of dwelling units, have been found in the districts of Jind, Karnal, Kurukshetra, Ambala, Sonipat, Hissar, and Sirsa as compared to their counterparts.

(3) A significant proportion of households in the state live in extremely congested position. In some of the districts like Faridabad, Gurgaon, Ambala and Kurukshetra more than one fourth of the total households, have the density of 4 and above persons per room. However density of persons per room is comparatively less in the districts of Bhiwani, Mahindergarh and Rohtak. The study also reflects that households in the state, face a great lack of privacy in all the districts and in both rural and urban area.

(4) There exists a more or less equal problem of inadequate living space in both rural and urban areas of the state. In both the areas a significant proportion of the households dwell in extremely congested position, however density of persons per room has been relatively high in urban areas in majority of the districts. It has also been found that the districts where, level of industrialization is comparatively high, also have high

density of persons per room. In other words, households in the industrialised areas, live in relatively extremely congested position.

5) A very significant proportion of households (45%) in the state does not have the availability of protected drinking water inside or outside of the houses and only 27% households have the availability of protected drinking water inside the houses. Situation in rural areas is most deficient as compared to urban areas. Majority of the households in rural areas of the state, get unprotected drinking water outside the houses. In some districts such as Jind and Rohtak, more than 80% households bring unprotected drinking water outside the houses. Availability of protected drinking water inside the houses, is comparatively high in North Eastern region of the state in both rural and urban areas.

6) About half of the total households (48.5%) in the state, do not have electricity. There also exists high inter-district disparity in respect of the availability of electricity. In some districts like Ambala, Faridabad and Sirsa more than 60% households enjoy power supply while in the districts like Mahindergarh, electricity is available to only 32% households.

Rural urban disparities are also very prominent in terms of the availability of power supply. In urban areas nearly 80% households in all the districts, have electricity while majority of the households in all the districts except Sirsa,

do not have the power connections at all.

7) It has been found that in the urban areas of the state, there is a great lack of basic amenities like toilets. For the state as a whole, a very significant proportion of households (42%) does not have any kind of toilets. Moreover, in some districts, such as Jind and Mahindergarh, toilet facilities are not available to a majority of households. However, households in the North Eastern part of the state enjoy comparatively better toilet facilities.

8) Natural Resources have a dominat role in effecting the quality of housing. For instance, in the semi hilly districts, of Mahindergarh and Gurgaon where stone, kime and concrete available in abundant quantity, a high proportion of households like pucca houses. On the contrary in the districts of Karnal, Kurukshetra and Ambala forest area is comparatively high, a relatively high proportion of households in semi pucca houses made of reeds, bamboos etc., Similarly, in those areas of the state, where there are more rivers and canals a comparatively high proportion of household get protected drinking water inside the houses.

9) On a whole quality of housing has been found relatively high in the districts of Sirsa, Ambala, Hissar, Karnal and Bhiwani in the rural areas of the state. Ambala and Karnal

alongwith Kurukshetra and Rohtak also have a high quality of housing in the urban areas of the state.

On the other hand, Jind and Mahindergarh districts have low quality of housing in both rural and urban areas. Whereas Gurgaon has low quality of housing in rural areas, Sirsa and Faridabad have in Urban areas . The remaining districts have medium quality of housing. On the whole quality of housing is deficient in rural areas as compared to urban areas.

10) Urbanization has a positive relationship with quality of housing. It has been found that higher the urbanization, higher will be quality of housing. Thismay be due to the developed infrastructure facilities in the urban areas.

11) Literacy also affects housing. The stepwise regression analysis revealed that it is one of the most important variable affecting the quality of housing positively which conforms our hypothesis that higher the literacy, higher will be the quality of housing.

12) High density of population affects the quality of housing adversely. Regression analysis of the variables shows that higher the density of population in one area, lower willbe the quality of housing of that area. It also supports our hypothesis.

13) There is a positive relationship between agricultural production and quality of housing. It has been found that

comparatively high productivity leads to better quality of housing in general.

14) No significant relationship has been found between employment and quality of housing as it was expected, though these are positively correlated.

15) The results of correlation and stepwise regression analysis do not support our hypothesis that higher the proportion of scheduled caste population, lower will be the quality of housing due to their economically weak position, rather then results show a positive relation between them. It may be due to the special steps taken by the government in order to improve their quality of life by providing them electricity connections, drinking water facilities as well as financial assistance to construct the houses.

In the light of the above mentioned findings, the following few suggestions are offered to effectively tackle the housing problem in rural and urban areas of the state.

a) As shelter, like food and clothing is one of the essential requirements for human existence, an agency at the state level with its branches in evey district, should be established to record the detailes of economic,social and housing particulars of each family living in both rural and urban areas.

b) Co-ordinated efforts will have to be made to bring together the scientific and technological innovations in the country

for exploitation and use of the available scarce house building material resources.

c) Households, who are inneed of government assistance to build their own houses should be encouraged to construct houses by using locally available building materials and should be provided a limited sum of financial assistance free of interest.

d) A significant proportion of urban householdis denied to provide such basic amenities as tap drinking water, electricity and toilet facilities on the pleas that they are dwelling in unauthorised colonies. These basic household amenities must be provided to every household irrespective of its income or place of residence.

e) Some government or semi government agencies which are constructing houses for all income groups, set theminimum price of the house beyond the financial limit of many poor families. Price for low income group houses hould be fixed according to the income of poor families. Secondly these agencies should avoid the tendency of profit gaining and should work on purely welfare basis.

f) In the rural areas, poor and household families may be encouraged to settle on agricultural land alloted to them under various schemes. Lal-dora of most of the villages needs further extension.

G. Facilities like approach roads, electricity, drinking water, should be provided to all poor locations in the villages.

h. Medium and small scale industries should be encouraged and started in rural areas. These will help absorbs additional and surplus labour in villages. The economic development of rural areas mayhelp in improving their quality of housing.

i. In the educational institutions subject connected with rural problems should be included at all levels.

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A P P E N D I X I

Census of India
Classification of Households 1961 to 1971 (in million)

Types of houses or dwelling units	1961			1971			1981		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Dwelling Units	77.22	63.64	13.58	89.66	71.93	17.73	103.14	80.94	22.20
Shop cum houses	0.67	0.44	0.23	1.06	0.79	0.27	1.17	0.88	0.29
Workshop cum houses	1.33	1.08	0.25	1.74	1.33	0.41	1.93	1.48	0.45
Total	79.22	65.16	14.06	92.46	74.05	18.41	106.24	83.20	22.94

1. The Housing stock of 1961 and 1971 have been obtained from the Office of the Census Commissioner.
2. 1981 figures have been estimated on the basis of trend rate of 1961 to 1971.

Source: Sinha B.D. Housing Growth in India
Arnold Heinaman, New Delhi p.120.

A P P E N D I X II

Estimated Housing shortage, demand and supply owing to population Growth: 1951 to 1971 (in million)

Year	Total Demand	Supply	Shortage	Rural Demand	Rural Supply	Rural Shortage	Urban Demand	Urban Supply	Urban Shortage
1951	72.22	64.362	7.858	59,720	54,057	5.663	12.500	10.305	2.195
1956	79.720	70.128	9.592	65.560	58.364	7.196	14,160	11,764	2.396
1961	87.840	79.223	8.617	72.060	65.160	6.900	15.780	14.063	1.717
1966	98.220	85.179	13.041	79,580	69.158	10.422	18.640	16.021	2.619
1971	109.580	92.458	17.122	87.940	74.045	13.895	21.640	18.413	3.227

Demand estimated yearwise on the basis of one house for five persons. Population figures obtained from census report. Supply of housing stock obtained for 1951, 61 and 71 from census reports, 1956 and 66 figures were estimated on the basis of census data.

Source: Sinha B.D. (1976) p.118.

A P P E N D I X III

Estimates/Projections of Housing Shortage

Particulars	1990 Total	1990 Rural	1990 Urban	1995 Total	1995 Rural	1995 Urban	2001 Total	2001 Rural	2001 Urban
1. No. of Households	151.7	115.7	36.0	167.8	127.9	39.9	187.3	142.8	44.5
2. Housing Stock									
a. Pucca	41.2	19,8	21.4	45.1	21.7	23.4	49,8	23.9	25.9
b. Semi pucca	46.9	39.2	7.7	51.5	43.0	9.5	56.7	47.1	9.3
c. Serviceable kutcha	34.9	34.4	0.5	38.2	37.6	0.6	42.4	41.7	0.7
d. Unserviceable kutcha	15.1	11.9	3.2	16.4	13.0	3.4	18.1	14.3	3.8
Total Housing Stock	139,1	105.3	32.8	151,2	115.3	35.9	167.0	127.3	39.7
3. Useable Housing stock	122.5	93.4	29,1	134.3	102,3	31.9	148.2	113.0	35.2
4. Housing Shortage (1-3)	29,2	22.3	6.9	33.6	25.6	8.0	39.1	29.8	9,3

1. Housing stock comprises residences, shop cum residences and workshop cum residences including household industry.
2. Figures have been estimated by applying decential growth rate for households, housing stock etc.
3. Projections are based on the assumption that every household whether in the urban or rural areas should a housing unit of itself.

Source: National Building Organisation, New Delhi.

APPENDIX IV

Variables for Correlation and Regressive Co-efficient

DEPENDENT VARIABLE (Quality of housing Index)
(Total Haryana)

DIST.	QHI
Ambala	2946
Kurukshetra	2522
Karnal	2747
Jind	2095
Sonipat	2527
Rohtak	2541
Faridabad	2808
Gurgaon	2384
Mahindergarh	2301
Bhiwani	2650
Hissar	2622
Sirsa	2826

Note:

QHI for total has certain limitations. First, data for assigning main weightage was collected separately for rural and Urban areas and not for total. In order to prepare this Index, main weightage for rural has been used. Secondly, the proportion of Urban population affects the total Index because the availability of Pucca houses and for physical amenities is farmuch in Urban areas. Therefore, higher the proportion of Urban population, comparatively higher will be QHI. As is seen in the case of Faridabad, where QHI has been found low in both rural and urban areas but it is high for total.

INDEPENDENT VARIABLES

Disst.	Gross value from agriculture per hectare(in Rs.)	%age of Urban population to total population	Density of population	Literacy rate	%age of main	%age of SC popln. to total popln.	Areas under forest Km.
Ambala	5593	32.90	368	44.62	29.0	23.49	680
Kurukshetra	7190	16.46	302	32.40	28.7	20.28	107
Karnal	6590	26.18	356	36.77	29.1	17.96	106
Jind	4735	13.80	284	26.18	29.2	19.25	74
Sonipat	5322	17.96	384	40.85	28.2	16.79	78
Rohtak	3641	18.83	349	42.55	26.7	17.34	87
Faridabad	3993	40.82	466	39.19	29.4	15.66	60
Gurgaon	3742	19.91	313	35.23	27.8	14.20	148
Mahinder-garh	2527	13.07	319	38.61	23.6	16.43	99
Bhiwani	2531	16.02	180	33.07	28.1	18.34	89
Hissar	4533	19.29	237	29.97	30.0	21.94	84
Sirsa	3677	20.44	165	29.88	29.8	25.27	90

Source: a. Statistical abstract of Haryana 1981, 1982.

b. Portrait of Population of Haryana.