

**Report**

**Colloquium on  
Housing & Building Activity in the  
Southern Region of India**

**(Bangalore, 18 & 19 December 1970)**

**Organised by**

**The National Buildings Organisation, New Delhi**

**in Collaboration with**

**The Mysore Housing Board, Bangalore**

**Government of India**

**National Buildings Organisation**



**and**

**UN Regional Housing Centre Ecafe  
Nirman Bhawan, New Delhi**

COLLOQUIUM ON  
HOUSING & BUILDING ACTIVITY  
in  
SOUTHERN REGION OF INDIA  
at Bangalore  
(18th & 19th December, 19

R E P O R T

Organised by  
NATIONAL BUILDINGS ORGANISATION  
in collaboration with  
MYSORE HOUSING BOARD.

Second Colloquium on 'Housing and Building  
activity in southern Region of India at  
Bangalore 18-19 december, 1970.

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1. Introduction

In order to focus the attention on various factors affecting housing activity at local and regional levels a colloquium on 'Housing and Building activity in the Southern Region of India' was organised at Bangalore on 18th and 19th december, 1970. This colloquium was second in the series of four colloquia which the National Buildings Organisation proposes to organize for different regions of the country. The first being at New Delhi for Northern Region organised in 1969 on 15th and 16th December.

2. Participation

Participation to the colloquium consisted of

- (i) contributors of discussion papers; and
- (ii) nominees of construction agencies and other departments dealing with the housing in the southern Region of India such as Municipal corporations and other local-bodies of major towns, Public Undertakings, Public Works Department, Housing Boards, Department of Town Planning, Bureau of Economics and Statistics, etc.

About 60 delegates belonging to the various governmental and non-governmental organisations attended the colloquium. The list of participants is given at appendix-I.

3. Inaugural Function

3.1 Dr. H.L. Thimme Gowda, Chairman, Mysore Housing Board welcomed the participants and hoped in his speech (appendix-IV) that it might be possible for the colloquium to arrive at some conclusions to solve the present acute housing shortage in the country and particularly in the southern Region.

3.2 Shri R.G. Gokhale, Director, National Buildings Organisation in his introductory remarks (appendix-V) stated that the National Buildings Organization provides a forum for discussion on housing problems where the experts in the field of housing come together and deliberate upon the problems which face housing. Further he stated that because of poor economic condition a major portion of housing stock was sub-standard and consisted of temporary structures. For instance, 46 per cent of the houses in India in rural areas were katchas compared to 20 per cent in urban areas. In the southern Region, the katcha structure formed 59.4 per cent of the total housing stock in rural areas and 31.6 per cent in urban areas. He

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further remarked that the statistics quoted by him clearly indicate that the situation in country was almost desperate. It was also assessed that about 10 units per thousand of population had to be built every year to ameliorate the housing situation in the country. Referring to the subject of the colloquium, the Director, National Buildings Organisation said that the colloquium would discuss 30 papers in three sessions on

- (i) Housing stock and situation;
- (ii) Current housing activity and factors influencing it; and
- (iii) Investment in housing and other relevant fiscal policies.

3.3 The Minister of state for Municipal Administration, Govt. of Mysore, Shri B.M. Patil in his inaugural address (Appendix-VI) emphasized the need of better housing which stimulates industrial activity, improves health standards, decreases delinquency, etc. He further stated that investment of housing had been rightly described as an investment to develop human personality. Mr. Patil suggested to the colloquium to consider the setting up of an active housing mortgage market in real estate and cooperative housing bank in the country. He further desired that the government should engage attention on mopping up of the unearned income from the land because of the rise in land prices etc. Mr. Patil made another suggestion for the consideration of the colloquium about the advisability of combining the activity of the State Housing Finance Corporation with the Housing Board. He also pleaded for measures to reduce the construction cost.

3.4 Shri N. Kumar, Deputy Director, National Buildings Organisation proposed vote of thanks to the Minister for sparing his precious time to inaugurate the function, Mysore Housing Board for collaborating with the National Buildings Organisation for organizing the function and to delegates to the colloquium.

#### 4. Business sessions.

- 4.1 30 technical papers (Appendix-II) on various aspects submitted for the colloquium were discussed in following three technical sessions:-

- (i) Housing stock and situation.
- (ii) Current housing activity and factors influencing it.
- (iii) Investment in housing and relevant fiscal and monetary policies.

4.2 The programme of the colloquium is given in Appendix-III. The points/emerged at the technical sessions are given in that following Paragraphs.

Contd.....3/-.

#### 4.2.1 session-1: Housing Stock and Situation

7 papers were discussed in this session. These related to housing stock and situation in urban and rural areas, demographic factors, such as, household size, income, age at marriage etc., affecting housing needs, urban-rural migration, measures to be taken for drawing up realistic housing programmes at local and regional levels.

Based on the discussion, the following points emerged:-

- (i) Housing and building activity accelerates economic growth by stimulating investment and increasing employment. Housing sector therefore calls for higher priority, than has hitherto been accorded in the overall investment strategy of economic planning.
- (ii) Investment in housing in rural and smaller towns was considered as a factor for arresting the migration from rural to big urban centres as this is expected to result in the development of ancilliary industries offering employment opportunities.
- (iii) Migrants, slum dwellers and other weaker sections of the society need special consideration in provision of housing because of their vulnerable position in the society due to social and economic constraints. For these classes of people, housing may be developed with adequate infrastructure.
- (iv) Housing statistics need development at the regional and lower levels to suit planning needs. Housing Boards may also take part in the collection of data as they will be acting in dual capacity of producer and consumer of such data. Za
- (v) Housing programme should not be limited to the provision of housing only but may as well include creation of suitable environmental facilities and amenities.

#### 4.2.2 session-II: Current housing activity and factors influencing it.

16 papers were discussed in this session. Discussions centred around the need for review of concept of conventional pucca structure, role played by the State Housing Boards and Housing Co-operatives in accelerating the housing activity, architectural and planning problems and building research and development of new building materials and reduction of building cost.

Contd.....4/-.

The main points emerging from the discussion were:-

- (i) Considering colossal housing shortage there should not be much stress on pucca structures lasting 50 years or more. Rather the policy should be to build large number of housing units of non-permanent type.
- (ii) The economy in the construction cost could be achieved by use of locally available building materials, new building techniques, adoption of national building code, etc. It was felt that the results of building research should be well publicised by the National Buildings Organisation by extending its activity more at the regional levels.
- (iii) Prices of building materials specially steel, cement bricks have been rising. This has resulted in increase in construction cost and high maintenance expenditure. In order to keep down construction cost, State Housing Boards and other such bodies may be supplied materials at controlled prices.
- (iv) The formation of co-operatives of artisans was suggested to ensure regular supply of labour particularly to housing co-operatives. In addition, this would provide a self-sustaining basis of work to artisans.
- (v) Contribution of private employers to housing of industrial workers is not significant while the Public Undertakings do have adequate provision for housing of their workers in the project plan itself. It was suggested that the provision of housing to the industrial workers by the private employers may be made obligatory through suitable administrative measures.
- (vi) The nationalisation of urban land was considered as a means to check further rise in prices and ensure proper land use.
- (vii) There is a need to set up housing boards in all the states. The Housing Boards may extend their services to private sector by providing standard house design and necessary technical guidance.

#### 4.2.3 Session-III:-Investment in housing, relevant monetary and fiscal policies.

8 papers were submitted for discussion. They related to the role of the Life Insurance Corporation and nationalised banks in boosting of housing activity, return on investment in housing, effect of rent control, incidence of taxation by local

bodies and the impact of Five Year Plans on housing. Discussions were directed towards the Life Insurance Corporation investment from investor's point of view; fiscal measures such as, tax reliefs on building materials, registration, stamp duty etc.; monetary policies, such as, differential interest rates on loans, etc. The following points were highlighted:

- (i) Setting up of the Central Housing Finance Corporation was considered as a step in right direction. It was felt that similar institutions may be set up at State levels.
- (ii) Additional resources for housing may be mobilised through the utilisation of PL 480 funds and the creation of 'House Building Provident Fund' on the lines of general provident fund which could be utilised in the formation of housing cooperatives.
- (iii) Life Insurance Corporation should invest more in housing by granting loans to policy holders on liberal terms.
- (iv) Necessary fiscal, monetary and administrative measures may be taken to induce private sector to invest more in housing for low income group. In this connection, system of differential interest rates and tax subsidy were advocated.
- (v) Some land may be set apart to be given at the subsidised rate to the low income group to mitigate their housing condition.
- (vi) As a subsidy to the low income group, the allottees of the houses constructed by the State Housing Boards and other such statutory bodies may be exempted from paying mortgage and stamp duties.

5. visits to housing Projects.

Delegates visited various housing projects of interest in Bangalore and Mysore.

Appendix-I: LIST OF PARTICIPANTS

Chief Guest

1. Shri B.M. Patil Minister of State for Municipal Administration, Govt. of Mysore, Bangalore.

I. State Governments

(A) Andhra Pradesh

- Shri Venkatarammana Reddy G. Director of Town Planning, Govt. of Andhra Pradesh, Hyderabad.

(B) Mysore

1. Shri Abdul Hameed H. G. Superintending Engineer, Mysore Housing Board, Bangalore.
2. Shri Ali Mohamad Assistant Engineer, Mysore Housing Board, Bangalore.
3. Shri Ananta Ramu, G. M. Secretary, Mysore Housing Board, Bangalore.
4. Shri Annaswamy, T. V. Assistant Director of Town Planning, Bangalore.
5. Shri Aswathanarayana Rao. Executive Engineer, Mysore Housing Board, Bangalore.
6. Shri Balaiah, B. Member, Mysore Housing Board, Bangalore.
7. Shri Balakrishna, A. Assistant Director of Town Planning, Bangalore.
8. Shri Channiah, T. Member, Mysore Housing Board, Bangalore.
9. Shri Chikkamma, B. M. Executive Engineer, Mysore Housing Board, Bangalore.

10. Shri Chinna swamy Y. Executive Engineer, Rural Housing Wing, Palace Road, Bangalore.
11. Shri Giri Gowda M. G. Accounts Officer, Mysore Housing Board, Bangalore.
12. Shri Giriyappa A. V. Executive Engineer, Mysore Housing Board, Bangalore.
13. Shri Gopal B. S. Assistant Director of Town Planning, Bangalore.
14. Shri Govindappa N. Assistant Director of Town Planning, Bangalore.
15. Shri Rao Gunde Land Acquisition Officer, Mysore Housing Board, Bangalore.
16. Shri Gureddi S. M. Member, Mysore Housing Board, Bangalore.
17. Shri Jathappa Rai K. Member, Mysore Housing Board, Bangalore.
18. Shri Muniswamiah R. Member, Mysore Housing Board, Bangalore.
19. Shri Nage Gowda H. L. Member, Mysore Housing Board, Bangalore.
20. Shri Narayana Gowda K. A. Executive Engineer, Mysore Housing Board, Bangalore.
21. Shri Narayanamurthy M. Assistant Engineer, Mysore Housing Board, Bangalore.
22. Shri Narayanachar V. Socio-Economist, Rural Housing Wing, ~~Visvesvaraya~~ College of Engineering, Bangalore.
23. Shri Panda Ranga Rao C. R. Assistant Engineer, Mysore Housing Board, Bangalore.
24. Shri Patankar B. V. Member, Mysore Housing Board, Bangalore.
25. Shri Rame Gowda K. S. Director, Town Planning Department, Mysore State, Bangalore.

26. Shri Rangaswamy S. Executive Engineer,  
Mysore Housing Board,  
Bangalore.
27. Shri Setty Papa Accounts Officer,  
Mysore Housing Board,  
Bangalore.
28. Shri Setty Veera Assistant Engineer,  
Mysore Housing Board,  
Bangalore
29. Shri Siddiah N. Executive Engineer,  
Mysore Housing Board,  
Bangalore
30. Shri Shivanage Gowda Assistant Engineer,  
Mysore Housing Board,  
Bangalore.
31. Shri Sreenivasan T. Director, Rural Housing  
Research Wing, Bangalore-1
32. Dr. Thimme Gowda H.L. Chairman,  
Mysore Housing Board,  
Bangalore
33. Shri Vasudevalah M. Revenue Officer,  
Mysore Housing Board,  
Bangalore
34. Shri Venkataswamy M. Assistant Engineer,  
Mysore Housing Board,  
Bangalore
35. Shri Venkatesh D. Member,  
Mysore Housing Board,  
Bangalore
36. Shri Venkatesh M.K. Secretary,  
Deptt. of Food, Civil  
Supplies and Labour,  
Govt. of Mysore,  
Bangalore

Tamil Nadu

1. Shri annamalai N. Department of Statistics,  
Govt. of Tamil Nadu,  
Madras

2. Shri Manavalam S. Executive Engineer,  
Building Centre Division,  
Public Works Department,  
P. W. D., Madras-5
3. Shri Ramakrishnan V. S. Deputy Housing Board  
Engineer, Tamil Nadu Housing  
Board, Madras.
4. Shri Ramaswamy K. R. Housing Board Engineer,  
Tamil Nadu Housing Board,  
Madras
5. Shri Subbiah V. S. Secretary(Labour),  
Govt. of Tamil Nadu,  
Madras
6. Shri Vasudevan T. V. Chairman,  
Tamil Nadu Housing Board,  
Madras-5

II. Public Undertakings

1. Shri Govind B. R. Chief Engineer,  
Bharat Earth Movers Ltd.,  
Bangalore
2. Shri Midha R. I. Deputy Director,  
Indian Standard Institution,  
Syndicate Building,  
Kampe Gowda, Bangalore
3. Shri P. Rama Rao B. L. Superintending Engineer,  
Indian Telephone Industries,  
Bangalore
4. Shri Rao D. V. M. Secretary,  
Indian Telephone Industries,  
Bangalore
5. Shri Satyabodha Rao A. R. Chief Engineer,  
Central Estate Department,  
Kolar Gold Field,  
Mysore State.
6. Shri Venkataswarulu P. Assistant Civil Engineer,  
Hindustan Shipyard,  
Vishakhapatnam (A. P.)

Contd.....10/-.



III.

Financial Institutions

1. Shri Aliyar S.R. Assistant Secretary  
(Legal & Mortgages Deptt.),  
Life Insurance Corporation  
of India, Bombay.
2. Shri Pai K.M.L. Manager,  
syndicate Bank,  
Bangalore.

IV.

Central Government

1. Shri ~~Debnath K. R.~~ Research Officer,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.
2. Shri Gangadharan M. Research Officer,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.
3. Shri Gokhale, R. G. Director,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.
4. Shri Gupta, J.P. Research Officer,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.
5. Shri Kumar K. Deputy Director,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.
6. Mr. Shri Manohar Architect Planner,  
Town & Country Planning  
Organisation, New Delhi.
7. Shri Ram Murti Research Officer,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.
8. Shri Subbaraman A.K. Executive Engineer (valuation)  
Income Tax Department,  
Madras.
9. Shri Kailash Nath Senior Investigator,  
National Buildings Organisation,  
Nirman Bhawan, New Delhi.

V. Universities

1. Dr. Mohsin Mohd. Reader,  
Faculty of Commerce,  
Aligarh Muslim University,  
Aligarh.
2. Prof. shanmugasundaram Head,  
V. Department of Economics,  
University of Madras,  
Madras.

Secretariat

National Buildings Organisation, New Delhi

1. Shri R. G. Gokhale Director
2. Shri K. Kumar Deputy Director
3. Shri S. N. Narang Deputy Director
4. Shri J. P. Gupta Research Officer

Mysore Housing Board, Bangalore

1. Dr. H. L. Thimme Gowda Chairman
2. Shri H. G. Abdul Hameed Superintending Engineer
3. Shri Y. Chinnaswamy Executive Engineer
4. Shri N. Siddiah Executive Engineer
5. Shri M. Venkataswamy Assistant Engineer
6. Shri Mohamad Ali Assistant Engineer
7. Shri M. Narayanamurthy Assistant Engineer

and members of staff of National Buildings  
Organisation, New Delhi and Mysore Housing  
Board, Bangalore.

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Appendix-II:- Papers for discussion

18th December, 1970 : 11.30 a.m. to 1.30 p. m.

Technical Session 1: Housing stock and situation

Chairman: Dr. H. L. Thimme Gowda,  
Chairman,  
Mysore Housing Board,  
Bangalore

Discussion  
Leader Shri K. S. Rame Gowda,  
Director of Town Planning,  
Govt. of Mysore, Bangalore.

Papers for discussion

1. Housing problems and situation-their nature and characteristics in southern Region of India pertaining to areas of Tamil Nadu  
Shri T. V. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.
2. Housing stock and situation-their nature and characteristics in Mysore State  
Shri K. S. Rame Gowda,  
Director of Town Planning,  
Govt. of Mysore, Bangalore.
3. Housing stock and situation-their nature and characteristics in Southern Region of India with special reference to Kerala.  
Shri P. P. Philipose,  
Deputy Director,  
Bureau of Economics & Statistics,  
Govt. of Kerala, Trivandrum
4. Housing stock and situation in Tamil Nadu  
Shri K. Annamalai,  
Department of Statistics,  
Govt. of Tamil Nadu, Madras
5. Demographic factors affecting housing needs with special reference to Southern zone of India  
Dr. K. V. Ramachandran,  
International Institute  
of Population studies,  
Ponbay

6. Migration and urbanization in Southern Region of India  
Shri Ram Murti,  
Research Officer,  
National Buildings Organisation,  
New Delhi.
7. Rural housing problems in Andhra Pradesh  
Shri G. Venkataramana Reddy,  
Director of Town Planning,  
Govt. of Andhra Pradesh,  
Hyderabad.

18th December, 1970: 2.45 p.m. to 5.45 p.m.

Technical Session-2: Current housing activity and factors influencing it

Chairman : Shri R. G. Gokhale,  
Director,  
National Buildings Organisation,  
New Delhi.

Discussion Leader : Shri T. V. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.

Papers for discussion

1. Trends and amenities in public sector housing,  
Shri L.G. Selvam,  
Adviser (Construction),  
Bureau of Public Enterprises,  
New Delhi.
2. Role played by Tamil Nadu Housing Board in activating housing activity in Tamil Nadu  
Shri T. V. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras
3. Role played by Mysore and other State Housing Boards in activating housing and building activity  
Dr. H. L. Thimme Gowda,  
Chairman,  
Mysore Housing Board,  
Bangalore

4. Pattern and type of construction activity in Andhra Pradesh  
Shri A. R. Satyanarayana Rao,  
Chief Engineer,  
Public Works Department (Bldgs.),  
Govt. of Andhra Pradesh,  
Hyderabad
5. Pattern and type of industrial housing in Kolar Gold Fields  
A. R.  
Shri Satyabodha Rao,  
Chief Engineer,  
Central Estate Department,  
Kolar Gold Mines Undertaking,  
Mysore
6. Trends and amenities provided in public sector housing construction  
Shri V. Narayanan,  
superintending Engineer,  
Madras Central Circle,  
Central Public Works Department,  
M.P.W., Madras
7. Construction handicaps in big urban centres  
Shri V. Narayanan,  
Superintending Engineer &  
Shri N. Natrajan,  
Executive Engineer,  
Madras Central Circle,  
Central Public Works Department,  
M.P.W., Madras
8. Role played by co-operatives in activating housing and building activity  
Shri P. S. Bhat,  
President,  
Mysore State Co-operative Housing Corporation, Bangalore.
9. An appraisal of housing co-operatives in southern Region  
Shri K. R. Debnath,  
Research Officer,  
National Buildings Organisation,  
New Delhi
10. Building bye-laws and urban housing and building activity in southern Region of India  
Shri Ajit Simha,  
Director (National Building Code),  
Indian Standards Institution,  
New Delhi.

11. Architecture in relation to socio-economic needs-  
with special reference to Southern Region of India  
Shri. Shri Manohar,  
Architect Planner,  
Town & Country Planning Organisation,  
New Delhi
12. Extent of housing activity in private sector in  
urban areas of Southern Region of India  
Shri K. Kumar,  
Deputy Director,  
National Buildings Organisation  
New Delhi
13. Public Sector current housing and building activity  
in Southern Region of India-its type and centres of  
concentration  
Shri J. P. Gupta,  
Research Officer,  
National Buildings Organisation,  
New Delhi.
14. Building activity in Public Undertakings in southern  
Region of India  
Shri N. Gangadharan,  
Research Officer,  
National Buildings Organisation,  
New Delhi.
15. Research & Development towards reduction of  
building cost  
Shri C. C. Mathur,  
Joint Director,  
National Buildings Organisation,  
New Delhi
16. Cost reduction through introduction of new building  
materials  
Dr. A. V. R. Rao,  
Joint Director(Material),  
National Buildings Organisation,  
New Delhi

19th December 1970; 10.00 A.M. to 1.00 P.M.

Technical Session 3: Investment in housing and relevant  
monetary and fiscal policies.

Chairman : Shri M. K. Venkatesh,  
Secretary,  
Deptt. of Food, Civil Supplies & Labour,  
Govt. of Mysore  
Bangalore

Discussion Leader : Dr. Mohd. Mohsin,  
Reader,  
Faculty of Commerce,  
Aligarh Muslim University,  
Aligarh.

Papers for discussion

1. Parts played by L.I.C. in creating real estate in urban areas  
Dr. Mohd. Mohsin,  
Reader,  
Faculty of Commerce,  
Aligarh Muslim University,  
Aligarh
2. Role of Life Insurance Corporation of India in urban housing with special reference to Southern Region of India  
Shri C.M. Desai, /Development Deptt.)  
Secretary, (Housing & Mortgage/  
Life Insurance Corporation of India,  
Bombay
3. Role played by Tamil Nadu Housing Board in activating housing and building activity in Tamil Nadu (already included in technical session 2)  
Shri T.V. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.
4. Role played by nationalized commercial banks in activating housing and building activity  
Department of Banking,  
Ministry of Finance,  
New Delhi.
5. Incidence of taxation imposed by local bodies on building materials  
Shri V. S. Subbiah,  
Secretary,  
Department of Labour,  
Govt. of Tamil Nadu,  
Madras.
6. Rates, taxes and return on investment from housing in urban area  
Shri N. S. L. Rao,  
Superintending Engineer,  
Central Board of Direct Taxes,  
New Delhi

7. Housing and building activity in Southern Region of India with special reference to the working of rent control acts in urban areas  
Prof. V. Shanmugasundaram,  
Prof. & Head of the Deptt. of Economics,  
University of Madras,  
Madras
  
8. Housing and building activity as a booster for national and regional economy  
Dr. S. R. K. Rao,  
Deputy Director,  
Deptt. of Economics,  
Reserve Bank of India,  
Bombay

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Appendix-III: Programme for the Second Colloquium  
on  
Housing & Building activity in southern Region  
of India at Bangalore on 18th and 19th December, 1970.

Venue : Conference Hall, Vidhana Soudha, Bangalore

I. 18th December, 1970

Registration of delegates	9.30 A.M.
Inaugural Function	10.30 A.M.
Technical session 1: Housing stock and situation	11.30 A.M. to 1.30 P.M.
Technical Session 2: Current housing activity and factors influencing it.	2.45 P.M. to 5.45 P.M.

II. 19th December, 1970

Technical session 3: Investment in housing and relevant monetary and fiscal policies	10.00 A.M. to 1.00 P.M.
visit to Projects undertaken by Mysore Housing Board in Bangalore	2.30 P.M. to 5.00 P.M.

III. 20th December, 1970

visit to places of interest in  
Mysore

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Welcome Speech by Dr. H.L. Thimme Gowda, Chairman  
Mysore Housing Board

Hon'ble Sri Patil  
Minister of State for Municipal Administration  
Sri Gokhale  
Distinguished Delegates and  
Ladies and Gentlemen,

It is indeed my proud privilege to welcome you all to this "Colloquium on Housing and Building Activity in the Southern Region of India". I am really very happy that the National Buildings Organisation thought of Bangalore to hold this Colloquium. This is the second Colloquium in a series of Colloquia that have been organised by the National Buildings Organisation with a view to focussing attention on problems affecting local and regional forces of demand and supply in housing market as also the tempo of regional housing and building activity so that it might be possible to arrive at some conclusions which have a bearing on regional housing policies and programmes.

I have great pleasure in welcoming Sri B.M. Patil, our Minister for Municipal Administration, who has been taking great interest in the Housing problem which is closely connected with Urban Development which is also his portfolio. I am sure that his address to this Colloquium will highlight the problems facing the Housing and Building activity in Southern Region. I also welcome Sri Gokhale, Director, National Buildings Organisation, who has come over here for the second time in his present capacity. The first time he came here was in connection with the Brick and Tile Forum. Now he is here to focus attention on another important problem i.e., of Housing and Building Activity. Under his stewardship, I am sure the National Buildings Organisation will give very valuable and expert advice to all those engaged in housing and building construction. I am really thankful to him for selecting Bangalore for holding this Colloquium.

To the Delegates consisting of eminent Engineers, Administrators, Scientists, Architects and Industrialists, I extend a hearty welcome. I am sure their stay in this City will be a pleasant one and that they will carry happy memories with them when they go back to their places.

I do not want to take very much of your time particularly when our Hon'ble Minister is about to deliver his Inaugural address. I once again, on behalf of the National Buildings

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Organisation and the Mysore Housing Board extend my very hearty welcome to the Hon'ble Sri Patil, to Sri Gokhale and to the distinguished delegates and to all the Ladies and Gentlemen who have come over here in response to our invitation.

Thank you,

Appendix-v

Introductory remarks of Shri R. G. Gokhale, Director, National Buildings Organisation at the inauguration of the Colloquium on 'Housing & Building Activity in the southern Region of India,' on 18th December, 1970.

On behalf of the National Buildings Organisation, I express our gratitude to Hon'ble Shri Patil for having agreed to spare some of his precious time to be with us for the inauguration of the Colloquium on Housing and Building Activity in the southern Region. It would be in the fitness of things to provide an idea of the role of the National Buildings Organisation in the field of housing.

2. The National Buildings Organisation was set up in 1954 to evolve a comprehensive approach to all aspects of housing towards optimum utilisation of manpower and material resources in the solution of housing problems. It now also functions as UN Regional Housing Centre for ECAFE. The field of activity of the National Buildings Organisation was widened in 1960 to include studies of socio-economic aspects of housing in addition to technical aspects like engineering and architecture. The Organisation is engaged in the task of continuously reviewing possible measures for improving quality of buildings and for reduction in their cost. It co-ordinates the researches in housing and building science in the country and disseminates to all concerned the results of these researches.

3. On the socio-economic side the Organisation conducts studies and surveys which have a bearing on socio-economic, financial and investment aspects of housing. It also acts as the national co-ordinating agency for collection, collation and analysis of housing and building statistics. In this respect, the National Buildings Organisation has **conducted** and sponsored research studies and surveys relating to such important fields as mobilisation of financial resources for investment in housing, tax incidence on housing, problems of gaps between social and economic rents and subsidies, operational working of existing housing schemes, housing mortgage and loan insurance, speculation in urban land, benefits accruing to workers as a result of better housing, etc. Apart from these socio-economic studies, nearly 20 schemes are included in the Fourth Plan for the development of housing statistics relating to current building activity, financing of housing, industrial housing, production of building materials, etc. All these socio-economic studies, it is expected, will help the policy makers to evolve appropriate policies and programmes of housing. The other technical studies which we do in the National Buildings Organisation should also help in best the utilisation of the finances thus made available for housing.

4. The National Buildings Organisation, from time to time, arranges lectures, get-togethers, training courses, etc, on various aspects of housing, as a part of our programme of dissemination of the results of various researches and surveys. Similarly, organisation of symposia, seminars and conferences on different problems of housing is another important activity of the National Buildings Organisation. The idea is to provide forums for discussion where the experts in the field of housing could come together and deliberate upon the problems which face housing. These deliberations also provide us some directions for further work in the field of housing.

5. The housing situation in India as in most of the other developing parts of the world has deteriorated, particularly during the last two decades because of such factors as rapid growth in population, urbanisation, slow rate of housing and building activity, rising construction costs, etc. The rise in urban land prices has further accentuated the problem. Adequate finance is also not forthcoming for investment in housing due to various reasons. Housing shortage in India was reckoned at 83.7 million dwelling units at the beginning of the Fourth Five Year Plan, 11.9 million units in urban areas and 71.8 million units in rural areas. This overall shortage is almost equally shared by the southern Region as well as other Regions of India. Because of poor economic conditions, a substantial portion of the housing stock in India is sub-standard and consists of temporary structures. For instance, 46 per cent of houses in India in rural areas were kutcha structures, and this proportion was 20 per cent in urban areas as per 1961 house-listing operation. In the southern Region of India the kutcha structures formed 59.4 per cent of the total housing stock in rural areas and 31.6 per cent in urban areas.

6. One room housing units constituted 55.7 per cent of the housing stock in the southern Region of India, a figure which is comparatively higher than the all-India figure of 49 per cent. However, such housing units have a preponderance in Tamil Nadu and Andhra Pradesh and the situation was comparatively easier in Mysore and Kerala. In metropolitan areas nearly 30 per cent of households live in slums.

7. These figures would clearly indicate how the housing situation in our country is almost desperate. Our present quantum of construction comes nowhere near what it should be if we are to catch up with this situation. With such enormous shortages and with the rate of growth of population being nearly three per hundred we construct less than 1 unit per thousand persons every year against a rate of construction which is nearly 7-8 in European countries where the present

shortage is hardly 10% and where the growth of population is less than 2 per cent. It is estimated that we have to build at least 10 per thousand if we are to catch up with this situation.

8. The National Buildings Organisation which had earlier organised various symposia, discussion forums at national and international levels, such as, Symposium on Housing co-operatives (1961); symposium on Housing Finance (1965); and the Symposium on Role of Housing in National Economy (1969) and Housing Convention (1969) felt that it would be worthwhile to study the problems of housing, not only at the national level, but also at regional and local levels. First colloquium at regional level for the Northern Region of India was held at New Delhi in december, 1969. The present colloquium is second in the series.

9. We have had an encouraging response from the various experts who were invited to contribute papers. In all 30 papers have been contributed and they are proposed to be discussed in three technical sessions - (i) Housing stock and situation; (ii) Current housing activity and factors influencing it; and (iii) Investment in housing and relevant monetary and fiscal policies. The programme also includes local visits to provide the delegates an on-the-spot idea of the housing activity undertaken by the Mysore Housing Board. Some of the important Organisations whose representatives have contributed these papers are the Life Insurance Corporation of India, Reserve Bank of India, Construction Agencies, Town Planning Departments, Public undertakings and State Statistical Bureaus. The Colloquium is being attended by about 60 delegates from 22 organisations.

10. We have been very fortunate to have the collaboration of Mysore Housing Board in holding this Colloquium at Bangalore. The interest which Mr. Thimma Gowda has kindly taken for this Colloquium is highly gratifying. We are thankful to him and his officers who have taken all the pains to make the arrangements for this colloquium.

11. We are highly obliged to Hon'ble Shri Patil for kindly agreeing to our request to inaugurate this Colloquium and spare time to be with us this morning, amidst his multifarious pre-occupations. We are confident that his words of advice will set the pace for meaningful discussions of the Colloquium.

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Appendix-VI

Inaugural Speech of Shri B.M. Patil, B.Sc. (Hons.),  
Minister of State for Municipal Administration on  
the occasion of the Colloquium on Housing and  
Building Activity in the Southern Region of India  
on 18th December 1970 at Bangalore

I have great pleasure to be with you this morning for the inauguration of the colloquium on "Housing and Building/ the Activity in the Southern Region of India organized by/ National Buildings Organisation in collaboration with the Mysore Housing Board. I understand that this colloquium is second in the series of colloquia which the National Buildings Organisation proposes to organize in the different regions of India. I consider this project of the National Buildings Organisation as a very useful one because housing which has been considered at a number of national and international forums is greatly influenced by local and regional forces such as demographic features, income levels of the people, their way of life, the rate of urbanization and particularly the problems of land and local building materials. It is especially true for a country of the size of India which is almost a continent and where diversity in way of life in spite of ~~standing~~ unity of common national purposes is recognized and appreciated. The imprint of these forces on architecture and the design of housing is well marked.

2. Housing situation in India as in many other developing countries has been worsening over the past two decades. At the national level, it has been estimated that the housing shortage in India was of the order of 11.9 million units in urban areas and 71 million units in rural areas at the beginning of the Fourth Five Year Plan and this housing shortage is particularly appalling in bigger metropolitan centres. For instance in Madras alone as much as 43 percent of the population in 1969 was living in slums and even in our garden City of Bangalore nearly one lakh of persons are reported to be living in inhabitable quarters. The present rate of housing and building activity can hardly be **expected** to touch even the fringe of the problem. For instance I am given to understand that the current rate of housing and building activity in urban and rural areas is around one dwelling unit per thousand of population per annum in India whereas per U.N. estimates it should be stepped up to 10 units if housing shortage is to be wiped off in the near foreseeable future. The housing problem is, therefore, assuming a form of a crisis. This is particularly due to the low priority which housing has been assigned in our plan allocations. There are no doubt other competing demands like that of industry and agriculture but it cannot be denied that housing is an important indicator of level of living of a

people and a basic social and welfare need. Hence purely economic criterion should not influence the priority for housing, though even on this account housing does not perhaps fare badly when we consider that housing investment accounts for a major share on investment in the economy, it generates income as well as stimulates income in other sectors of the economy. Further, the indirect benefits that accrue due to better housing are well known. They include such vital factors as increase in industrial productivity, improvement in health standards and decrease in delinquency, better family life and social adjustment etc. Housing investment has, therefore, been rightly characterised as an investment in human personality in human welfare. The provision of suitable housing facilities, therefore, plays a vital role in creating the climate for the country's growth in maintaining health and social stability and in preserving values of decent family and home life. It is sometimes forgotten that a more equitable distribution of the gains of development is at least as important as the gains themselves and that without a broad undercurrent of support for and a sense of participation in the national efforts to create a more prosperous and equitable society the very basis for that effort may be undermined.

3. The major constraints for the improvement of housing and building and other social amenities is the inability of the government to finance the necessary investment and rising construction cost. The majority of the people are in very low income brackets and they are unable to afford a decent dwelling. This calls for an increasing role by the governments in housing. In India through a system of selective schemes designed for the weaker sections of the community and low income groups, the government has been trying to take some steps in this direction. These schemes had in them a built-in system of subsidies of various forms as well as facilities for loan finance. But the contribution of these schemes to the totality of the problem is very marginal. It is now obvious that whereas the Government has to continue its efforts within the limited means at its disposal, it has to take steps to encourage and mobilize private investment for housing which of late is being diverted to luxury housing alone. The Public Housing no doubt plays a role of catalyst by drawing out private savings and channellizing them into this sector not otherwise attractive to private investors. In this process some dormant capital is also activated and additional savings are generated and diverted to housing instead of conspicuous and wasteful expenditure.

4. Housing capital market at present consists of loosely knit financial agencies and has not yet developed as an organized and distinctive segment of the capital market. The main reason for this state of affairs has been traced to the lack of organized financial institutions such as Housing Finance Corporations



and a central co-ordinating financial institutions which can give leadership to the network of well co-ordinated financial institutions at lower levels. The setting up of Housing Finance Corporation recently at the centre, we hope, will to some extent meet the deficiency of the central institution of this nature. We also feel that the emphasis which is being placed by the Central Government on Revolving Funds will help in mobilizing of the resources for housing.

5. The Housing Ministers Conference in Bangalore held last year laid stress for suitable action in this direction. I would like this colloquium to consider how best we can go about in India to set up an active housing mortgage market in real estate as functioning in some of the advanced countries like United States, Scandinavian countries. Co-operative Housing Mortgage Banks as set up in Tamil Nadu on the pattern of saving and home loan association and building societies in U.K. is no doubt good beginning in this direction.

6. Land is a scarce material and its prices are soaring very high in metropolitan areas and other areas of economic activity. / But at the same time we are also aware that judicious and selected investment in land and discriminative prices policy can help to raise and mobilize funds for housing. The example of Delhi is a very good example in this direction. The mopping up of un-earned income from land has also been engaging the attention of the Government because the rise in land prices does not arise entirely out of the action of the individual. It is the efforts of the community that raise the land values and, therefore, ways and means to ensure that whereas the individual is not deprived of his due share of return on investment the community gains as result of the rise in land prices accruing because of the action taken by it.

7. Housing Boards in India have definitely proved their usefulness in making the valuable contribution to housing and, therefore, it is a good augury for housing that most of the State Governments have set up Housing Boards in their respective states. Housing Boards apart from developing land and constructing housing for different income groups have mobilized financial resources through debentures and by raising loans. But the State Housing Boards are not strictly financial institutions and they have a mixed bag of functions. It is sometimes felt whether State Housing Financial Corporations and the Housing Board should be two separate bodies or their functions should be rolled into one organisation. May be the colloquium consider this aspect of the problem.

8. The housing construction cost has been rising very appreciably. This has risen by more than 100 per cent in the last two decades. In a developing economy rise in prices is

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perhaps inevitable but it is also important that ways and means to minimize the rise in cost of construction in spite of rise in the prices of building materials and wages of labour should be kept in view. This could be done by increasing productivity including standard designs, adopting new and cheaper building materials, intensive utilization of land and keeping down cost of administration and supervision. The National Buildings Organisation has done useful work in this direction but there is perhaps still more scope for increasing their activity towards extension of the research and discoveries and their dissemination and adoption by various engineers and construction agencies. Only this could help us in optimizing the scarce resources for construction of houses for the masses.

9. Housing as the final product is the result of inputs of various disciplines and skills as well as multiplicity of building materials. It is, therefore, axiomatic that any solution to housing problems could be had out of an integrated view of the problem by inter-disciplinary approach. Therefore, I am glad to find that in this colloquium various disciplines are represented and subjects to be discussed cover a wide range of problems. I am, therefore, confident that the deliberations at this colloquium will bring out some useful conclusions and recommendations which may be of help to us not only at the State and regional levels but also in formulating housing policies and programmes of interest and utility to the national government.

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18th December, 1970; 11.30 a.m. to 1.30 p.m.

**Technical Session A: Housing Stock and Situation.**

**Papers for discussion**

1. Housing problems and situation-their nature and characteristics in Southern Region of India pertaining to areas of Tamil Nadu.  
Shri T. Y. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.
2. Housing Stock and situation in Mysore State:  
Shri K. S. Rame Gowda,  
Director of Town Planning,  
Govt. of Mysore, Bangalore.
3. Housing stock and situation in Southern Region of India with special reference to Kerala  
Shri P. P. Philipose,  
Deputy Director,  
Bureau of Economics & Statistics,  
Govt. of Kerala, Trivandrum.
4. Housing Stock and situation in Tamil Nadu.  
Shri A. Annamalai,  
Department of Statistics,  
Govt. of Tamil Nadu, Madras.
5. Demographic factors affecting housing needs with special reference to Southern Region of India  
Dr. K. V. Ramachandran,  
International Institute  
of Population studies,  
Bombay.
6. Urban-rural migration  
Shri Ram Murti,  
Research Officer,  
National Buildings Organisation,  
New Delhi.

Chairman:

Dr. H. L. Thimme Gowda,  
Chairman,  
Mysore Housing Board,  
Bangalore.

Discussion Leader:

Shri K. S. Rame Gowda,  
Director of Town Planning,  
Mysore State,  
Bangalore.

HOUSING PROBLEM AND SITUATION, THEIR NATURE  
AND CHARACTERISTICS IN SOUTHERN REGION OF  
INDIA PERTAINING TO AREAS OF TAMIL NADU

by

Shri T.N. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.

The paper deals with housing shortage, nature and characteristics of housing in State of Tamil Nadu. Utilizing 1961 census data and results of various sample surveys conducted in the State, disparity in housing type with bungalows at one extreme and over whelming number of thatched huts at the other extreme has been vividly brought out. The paper lists out various administrative steps such as creation of slum clearance Board taken by the State Government to provide better housing in decent environments to slum dwellers, industrial workers and persons of low income groups.

1. Housing problem

1.1 The problems that face any underdeveloped country are those pertaining to food, clothing and housing. The problem of housing is the most serious in the rapidly growing urban centres. As per the 1961 census there was shortage of 60 lakhs of houses in the year 1961, and by the end of the 5th Five Year Plan the shortage is likely to be increased to 90 lakhs for the whole state. The shortage of houses is very keenly felt and is acute in the urban areas. It has never been possible to bridge the gap between demand and supply with regard to housing. Table 1 gives the population, number of houses and percentage increase in each decennium from 1871 to 1961 for the city of Madras.

- 2 -

Table 1: Housing Stock and population in Madras city 1871-1961

Year	Population	% of increase	No. of houses		% of increase
(1)	(2)	(3)	(4)		(5)
1871	3,93,920		51,741		-
1881	4,05,848	3.3	64,550	+	24.8
1891	4,52,518	11.5	57,754	-	10.5
1901	5,09,346	12.6	55,665	-	3.6
1911	5,18,660	1.8	59,595	+	7.1
1921	5,26,911	1.6	64,621	+	8.4
1931	6,47,230	22.8	73,845	+	14.3
1941	8,81,485	20.1	87,888	+	19.0
1951	14,16,056	60.1	1,09,993	+	25.2
1956	17,00,000	20.0	1,15,000	+	12.0
1961	17,29,141	1.7	1,47,694	+	27.8

### Population & Housing

1.2 There has been a decrease in the number of houses between the period from 1881 to 1901 and this abnormal decrease in these two decades may be mainly attributed to a shift of building from residential to non-residential use due to the growing commerce in city. Since then there has been a steady increase in the number of houses. It was only in 1911 that the percentage of increase of houses has not only caught up but also exceeded the rate of growth of population. The number of houses in 1956 has been estimated, taking into account that 1000 new houses are added to the city every year. This indicates the formidable leeway to be made with regard to the housing situation.

### 2. Housing in Tamil Nadu

2.1 Housing shortage Based on 1961 census, Annexure I gives the shortage of housing and the percentage of shortage to existing. The list is in way elaborate but gives the data for all the Taluq and District Headquarters. The shortage is 134% in Madras city while in some taluq headquarters it is as low as 0.55 in Srivilliputhur in Ramnad District.

### 2.2 Nature of wall and roof materials.

Based on a sample survey of 20%, Annexure II gives the sample of households living in houses using different materials for walling purposes. The predominant walling material is still the brick either burnt or unburnt. People are tied down to traditional building materials and do not easily change over to novel methods of constructi

Though hollow block was attempted by the erstwhile C.I.T. it did not find favour with the public and this method of construction with hollow blocks had to be given up by the erstwhile C.I.T. The proposed Cellular Concrete plant will be commissioned early in 1971 and this new material is likely to revolutionise the building activity. It is hoped that the public will take to this kindly. Annexure III gives details regarding the nature of material used as roofing material. In urban areas the concrete roof or the flat roof called the Madras terrace is predominant while in rural areas the traditional cocconut leaves with wooden or bamboo rafters is still used to a large measure as a roofing material. This shows the poverty of the people and their inability to go in for other type of materials which are comparatively costly.

### 2.3 Persons per dwelling

Notwithstanding the steady rate of increase in the number of houses noticed in recent years, the congestion in dwelling had increased from 8.2 persons per house in 1921 to 12.9 in 1951. Due to the various activities of the Tamil Nadu Housing, this density has been reduced to about 5.5 persons per dwelling, in some areas, though in highly congested areas like George Town, Park Town, Washermenpet etc. the number of persons per dwelling vary from 15 to 19.

### 2.4 Size of Household

A sample survey taken in 1957 revealed that the average size of a household is 5.4 for the entire sample. This figure was slightly less i.e. 5.2 persons per household according to the 1951 census. According to the survey table 2 gives the size of the household in the different communities.

Table 2: Household size by Community

Religion & Community	Average size of households
Hindu- Advanced	5.5
Backward	5.3
Scheduled	5.3
Muslims	6.1
Christians	5.6
Anglo Indians	5.8
Jains	6.0
Others	5.0

## 2.5 Types of Houses

Various types of houses ranging from Bungalows with 20 to 30 rooms to small one-roomed huts in different artistic styles can be seen in Madras. According to the sample survey in 1957 the percentage distribution of the different type of houses is given in table 3.

Table 3: Percent distribution of housing stock by its type

Class	Description	Total Percentage
1.	Bungalows	1.6
2.	Storeyed houses and apartments	15.7
3.	Traditional with courtyard	56.2
4.	Hutments	9.0
5.	Thatched Huts	17.5

Till 10 years back people were only eager to own individual bungalow type houses. But to the every increasing cost of land, building materials and labour, people have now come to like storeyed houses or flats. These flats are comparatively cheap and safe from thieves as this gives a feeling of security. Such flats are becoming more and more popular in Tamil Nadu.

## 2.6 Old & Dilapidated houses:

In 1947 the Madras Provincial Housing Committee estimated that about 30,000 houses out of 90,000 houses in the old limits of the city were substandard and deserved to be demolished and replaced. Taking into consideration the houses that are added to the city year after year, it can be very well assumed that about 20% of the houses in the city need replacement. This percentage, to a large extent, applies to the areas covered by slums in the city.

## 2.7 Occupancy Characteristics

From a sample survey conducted, it is revealed that about 31% occupy a dwelling exclusively and 69% sharing their houses with co-tenants. With regard to the storeyed and old type houses the number of shared houses is not predominant. With bungalow type houses at one extreme and thatched huts at the other the exclusively occupied houses preponderate over the other types.



## 2.8 Ownership and tenancy

The sample survey reveals that about 28% live in their own houses and 68% constitute rent paying tenants. It is interesting to note that about 4% of the population occupy houses free of rent.

## 2.9 Persons per room ratio

The sample survey conducted in 1957 on 13288 households reveals that four had no room or house to live in. This represents the pavement dwellers. As no data is available about the actual number of pavement dwellers, a survey is now being conducted by the Slum Clearance Board. The sample survey also indicates that 33.6% live in one room tenements and that living in houses having kitchen and one living room constitute 31.8%. Applying the average size of the household of 5.4 the number of persons per room is 5.4 which is an index of the housing congestion.

## 3. Rental values

It is noteworthy that about 2% pay a rent exceeding Rs.100/- and 58% pay rents upto Rs.10/- and 25% of the population pay rent between Rs.11/- and Rs.25/- and about 10% between Rs.30/- and Rs.50/-.

## 4. Slums and its Clearance

4.1 It will be out of place if a mention is not made about the slums and slum dwellers in Madras City. According to the survey conducted in 1964 it is estimated that 1.4 lakh of families live in about 500 slums scattered all over Madras. A population of about 7 lakhs of persons live in these slums. This represents about 25% of the existing population of Madras City. Since the inception of the Slum Clearance scheme a sum of about Rs.300 lakhs has been spent in Madras City. About 7000 open developed plots and 7500 tenements have been completed under various schemes. The Tamil Nadu Government has recently created a Slum clearance Board purely for the purpose of clearing the slums and it is keen to clear all the slums within the city within a period of 7 years.

4.2 The State Govt. did recognise the urgency of the problem for providing better housing and took earnest and concerted efforts to provide housing facilities to the ever increasing population. The Government wedded to the concepts of a welfare State and a stable democracy thought of housing the masses, mostly the slum dwellers, industrial workers and persons in the Low Income Group in decent environments. At first, finance was released by the Govt. for the construction of houses mainly for the Co-operative Societies. In 1947 the City Improvement Trust was established.

This Organisation was able to meet the demand to a considerable extent with the limited financial assistance from the Government. The State Housing Board came into existence in 1961. This Board began to acquire large extent of lands in and around the city of Madras for developing new colonies and neighbourhoods. These neighbourhoods are fully developed colonies with all amenities such as roads, water supply, sewage and electricity.

## 5. Implementation and progress of housing programmes

5.1 It was considered that the development of housing programmes should not be confined to the city alone but extended to the districts also. Three Units of the Housing Board were established at Madurai, Tiruchirapalli and Coimbatore. This Board being a statutory body with members from various departments is able to plan and co-ordinate the housing activities in the State and ensure expeditious and efficient implementation of the housing programme. Accordingly the Planning and execution of the various housing schemes of all categories under such agencies like the Public Works Department, Rural Housing Cell, Corporation of Madras Co-operative Societies and Labour Department come under the purview of the Tamil Nadu Housing Board. The Co-operative Housing Wing, formerly under the control of the Registrar of Co-operative Societies has now been attached to the Tamil Nadu Housing Board. Besides the schemes mentioned above a number of schemes like Middle Income Group, Low Income Group, Land Acquisition and Development Scheme and Tamil Nadu Government Servants' Rental Housing Schemes were taken up outside the plan, with financial assistance from Life Insurance Corporation of India.

5.2 Annexure IV gives a comparative study of the house accommodation position during the II & III Plan and the subsequent Annual plan periods. By these measures it is earnestly hoped that the housing problem of Tamil Nadu will be solved to a large measure within a period of ten years.

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**ANNEXURE I**

**HOUSING SHORTAGE IN TAMIL NADU**

(1) <u>STATE</u>	(2) Required	Houses		(5) Percentage of shortage to existing
		(3) Existing including dilapidated houses.	(4) Shortage	
Tamil Nadu	67,37,391	33,23,474	3,71,917	5.84
<u>MUNICIPALITY:</u>				
Madras	3,45,828	1,47,694	1,98,134	134.14
<u>Chingleput District</u>				
Kancheepuram	18,543	12,417	6,126	49.34
Tiruvattiyur	7,514	6,264	1,250	19.95
Thiruvallur	3,951	2,742	1,209	44.09
Chingleput	5,195	3,117	2,078	66.66
Arkonam	5,312	3,916	2,396	61.18
<u>North Arcot District</u>				
Tindivanam	6,968	5,317	1,551	29.17
Vellore	22,748	13,375	9,373	70.08
Gudiyatham	10,077	7,134	2,943	41.25
Vaniyambadi	8,410	5,972	2,438	40.82
Tiruvannamalai	9,238	6,171	3,117	50.51
Walajapet	2,636	2,291	345	15.06
Ranipet	4,595	3,374	1,221	36.19
Arni	6,270	4,590	1,680	36.60
Ambur	7,891	5,688	2,203	38.73
Tiruppathur	6,160	4,271	1,889	44.22
<u>South Arcot District</u>				
Cuddalore	15,834	13,033	2,761	21.12
Villupuram	8,699	6,473	2,226	34.39
Chidambaram	8,139	6,199	1,940	31.3
<u>Salem District</u>				
Salem	49,829	42,839	6,990	16.31
Rasipuram	4,774	4,425	349	7.88
<u>Coimbatore District</u>				
Coimbatore	57,261	46,323	10,938	23.61
Erode	14,752	10,360	4,392	42.4
Tiruppur	15,955	10,432	5,523	53.00
Karur	10,113	8,524	1,589	18.70
Gopichettipalayam	5,401	3,596	1,805	50.20
Dharguram	5,233	4,297	1,001	23.3

Udumalpet	5,669	4,427	1,242	28.05
Pollachi	10,874	6,263	4,611	73.6
<u>Nilgiris District</u>				
Ooty	10,028	8,929	1,099	12.30
Coonoor	6,138	5,748	390	6.78
Mettpalayam	7,299	6,146	1,153	18.80
<u>Tiruchi District</u>				
Tiruchi	49,972	40,903	9,069	22.20
Vadukkottai	10,902	9,494	1,408	14.80
Srirangam	2,390	7,730	660	8.5
<u>Tanjore District</u>				
Tanjore	22,220	19,011	3,209	16.9
Kumbakonam	18,516	13,166	5,350	40.6
Mayaram	10,279	8,025	2,254	28.1
Nagapattinam	11,813	10,007	1,806	18.0
Mannargudi	6,712	5,928	784	13.2
Tiruvavarur	6,027	5,596	431	7.7
<u>Madurai District</u>				
Madurai	84,962	50,243	34,719	69.1
Dindigul	18,589	14,195	4,394	30.9
Palani	7,333	6,992	974	13.9
Periakulam	7,267	5,377	1,890	33.1
Bodinayakanur	8,982	5,307	3,676	69.3
Cumbum	6,503	4,548	1,955	43.0
<u>Ramanathapuram District</u>				
Virudhunagar	10,965	11,429	-	-
Srivilliputhur	9,263	9,312	51	0.55
Rajapalayam	14,241	15,203	-	-
Sivakasi	6,138	5,870	263	4.6
Karaikkudi	8,740	8,779	-	-
Aruppukottai	10,040	9,319	621	6.6
Devakottai	5,105	4,340	765	17.7
<u>Tirunelveli District</u>				
Tatticorin	24,846	26,058	-	-
Tirunelveli	11,598	13,959	639	3.8
Palayakottai	10,300	7,779	2,421	31.2
Melapalayam	7,761	7,123	638	8.9
Shenkottai	4,108	4,105	-	-
<u>Kanyakumari District</u>				
Negarkoil	21,241	18,423	2,818	15.3
Kuzhithurai	2,742	2,196	546	24.9
Padmanabhapuram	2,898	2,605	293	11.2
Collachel	3,135	2,308	827	35.8

Distribution of sample of Households living in houses used wholly (or) partly as dwelling in predominant material of wall in Tamil Nadu Based on 20% sample

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Total Rural urban	Total No. of Households	Grass on leaves bamboo	Timber	Mud	Un-burnt bricks	Burnt bricks	Corru- gated iron sheets	Stone	Cement concre- te.	All other mater- ials	Material not stated	
Madras State	T R U	1421310 1064803 356507	13643 9278 4365	2422 2014 408	927250 789994 137256	34125 23137 10998	325062 153519 171543	6352 5629 723	100141 72923 27218	3211 1210 2001	3199 2332 367	5965 4767 1138
District Madras T	U	65644	738	4	16762	1854	44324	257	616	715	25	349
Chingleput	T R U	90314 72177 18137	183 24 159	5 2 3	65337 56373 8464	713 518 132	19737 11806 7931	28 23 5	3731 2543 1188	125 25 100	24 22 2	431 278 153
N.A. District	T R U	123668 101174 22494	56 43 13	1093 1093 -	87200 76899 10391	744 543 201	33050 21534 11456	23 9 14	1171 826 315	47 15 32	6 6 -	188 146 49
S.A. District	T R U	128838 113721 15117	212 159 53	1 1 -	103086 94849 8237	1002 334 668	20048 15150 4898	30 3 27	3959 2712 847	535 168 367	20 19 1	345 326 19
Salem District	T R U	159560 135850 23710	476 427 49	25 25 -	119049 107098 11951	888 644 244	26644 10259 10385	43 39 4	12654 11046 1008	62 40 22	26 20 6	293 252 41
Coimbatore District	T R U	148869 107684 41185	1293 711 582	223 24 199	84165 69289 14856	1219 704 515	15899 3570 11320	4629 4550 79	40673 23377 12296	265 45 220	52 43 19	511 422 89
Nilgris Distt.	T R U	16417 9525 6922	991 578 413	127 61 66	1577 854 723	252 226 26	8942 4644 4298	924 863 61	3435 2189 1246	127 41 86	41 44 -	358 358 3

Madurai Distt.	T	134520	864	18	93251	385	33916	40	4717	572	428	329
	R	93993	656	8	74270	242	13614	33	4059	480	377	254
	U	40527	208	10	18981	143	20302	7	658	92	51	75
Trichy Distt.	T	142093	314	100	106603	945	29123	95	4357	224	39	293
	R	114414	180	6	95165	413	14662	6	4190	67	37	260
	U	27679	134	94	11438	832	14461	89	167	157	8	24
Tanjore Distt.	T	142367	2304	135	99748	6349	23425	156	2276	21	17	2172
	R	115796	1895	135	87656	4719	16684	7	2382	29	15	2280
	U	26571	309	-	12092	1630	11741	149	344	62	2	192
Ramanathapuram Distt.	T	16731	1530	10	75308	763	22167	33	5615	174	993	398
	R	81319	1349	3	64355	489	9592	33	4333	120	701	344
	U	25712	181	7	10953	279	12575	5	1312	54	292	54
Tirunelveli Distt.	T	124413	3241	12	65223	9091	23725	70	15253	238	1154	227
	R	86795	1779	3	53583	5948	14786	55	9374	144	988	135
	U	37348	1462	9	11640	3143	13939	24	6479	94	4166	92
Kanyakumari Distt.	T	37316	1541	669	9911	9915	14062	16	1554	36	71	41
	R	32355	1477	653	9155	8294	11140	14	1473	36	70	36
	U	5461	64	16	753	1621	2913	2	81	-	1	5

Percent distribution of households in houses used partially or wholly as dwellings  
by dominant material of roof in Tamil Nadu

District	Total Rural Urban	Grass leaves wood bamboo	Tiles slab	Corrugated iron sheet	Asbestos cement sheet	Brick and lime	Concrete and stone slab	All other materials	Material not stated
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madras State	T	822980	465558	21837	2884	62626	36200	5607	3608
	R	706982	294079	12188	1009	23710	19992	4154	2689
	U	115998	171479	9649	1878	38926	16208	1453	919
Madras Distt.	T	20346							
	R	63818							
	U	20346	25584	1772	557	11263	6246	87	289
Chingleput Distt.	T	63818	22534	78	131	1642	1640	10	461
	R	56657	13916	19	23	96	1155	5	306
	U	7161	8618	59	108	1546	485	5	155
N.A. Distt.	T	83177	36273	79	38	2573	818	515	255
	R	74671	24500	15	25	1082	447	234	200
	U	8506	11713	64	13	1431	371	281	55
S.A. Distt.	T	104932	13732	96	29	2943	1745	16	345
	R	96393	13874	92	27	1772	1229	13	321
	U	8839	4858	4	2	1171	516	3	24
Salem Distt.	T	103331	51904	280	71	2181	837	153	253
	R	96054	37220	269	50	1285	577	152	242
	U	7777	14684	11	21	895	310	1	11
Coimbatore Distt.	T	40073	102882	1816	891	1356	845	526	430
	R	34230	72379	36	64	246	146	245	338
	U	5847	30503	1780	827	1110	746	281	95
Nilgiris Distt.	T	1949	11272	2734	265	3	50	155	19
	R	1209	6186	1706	225	2	23	155	19
	U	740	5086	1008	40	1	27	-	-

Madurai Distt.	T	66285	31609	10635	310	15442	8044	1749	446
	R	53692	17590	6837	263	8146	5380	1714	371
	U	12593	14019	3798	47	7296	2664	33	75
Trichy Distt.	T	99960	30915	1440	118	6070	2535	623	233
	R	88207	20918	1350	45	2178	1470	34	218
	U	11759	9997	290	72	3892	1065	589	15
Tanjore Distt.	T	103160	35253	64	39	1778	1800	58	215
	R	90330	23429	41	25	519	1243	54	155
	U	12930	4924	23	14	1259	857	4	60
Ramanathapuram Distt.	T	57576	32038	1547	125	3722	5268	1359	395
	R	49759	20281	911	30	4548	4108	1318	334
	U	7317	11757	636	96	4174	1160	11	61
Thirumelveli Distt.	T	57779	49059	1565	302	8668	6189	356	225
	R	47159	30228	883	226	3756	4103	200	150
	U	10620	18831	682	76	4882	2026	156	75
Kanyakumari Distt.	T	20094	17503	31	8	55	83	-	42
	R	18627	13558	29	6	49	48	-	38
	U	1467	3943	2	2	6	55	-	4



Progress of housing construction during Second, third and the subsequent  
Annual Plan periods in Tamil Nadu

Sl. No.	Name of the project	Name of agency	Second Plan		Third Plan		Annual Plan 66-67 to 1968-69		Fourth Plan 69-70 Upto Dec. 1969	
			Number of houses Completed	Under constn.	Number of houses completed	Under Constn.	Number of houses completed	Under const.	Number of houses Completed	Under Constn.
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	Subsidised Industrial Housing scheme	1. Public Sector 2. Private Sector 3. Co-operative sector	2074	564	1,052	215	327	156	-	12
2.	Low Income Group Housing Scheme	T.N.H.B. Co-operative Sector	824	-	1,916	652	1,126	400	600	236
		Co-operative Sector	1,421	752	1,791	387	737	466	87	527
3.	Slum Improvement Clearance Scheme	T.N.H.B.	1,347	**	2,688*	2528	5,938*	2,220	1,800	1,000
					5,985**	-	761**	-	-	-
4.	Plantation Labour Housing Scheme	Commissioner of Labour	155	36	-	68	-	-	-	-
5.	Village Housing Project scheme	R.H.C.	131	1,401	1,922	1,456	472	-	99	1,127
6.	Land Acquisition & Dev. Scheme	T.N.H.B.	358 acres	-	2,321 acres	4,067 acres	812.03 acres	3,133.03 acres	198.51 acres	735 acres
7.	Middle Income Group Housing	T.N.H.B. Co-operative sector	29	-	572	528	489	485	450	220
		Co-operative sector	37	260	801	262	146	350	44	150
8.	Tamil Nadu Govt. Servants Rental Housing Scheme	T.N.H.B.	-	-	1,364	1,556	3,430	514	502	678
9.	Rural Housing Scheme	Sch. R.C.S. (Reg. of Co-op Soci- ties)	326	220	510	372	-	-	76	205
10.	Urban Housing Scheme	RCS	1,681	734	1,948	116	-	-	-	-

\*Tenements ...

# HOUSING STOCK AND SITUATION- THEIR NATURE AND CHARACTERISTICS IN MYSORE STATE

BY

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The paper details out housing situation and stocks existing in 1961 in urban and rural areas of Mysore State. The paper also provides estimates housing needs for each Class I town of the State. It is estimated that nearly Rs.1100.00 million are needed for constructing nearly 5,50,000 housing units in urban areas. The requirements of the Rural Mysore are nearly 9,00,000 with estimated cost of Rs.4.5 million. The paper pleads for imagination and ingenuity for tackling State housing problem.

## 1. Introduction

1.1 Housing is one of the basic needs of mankind. The house where a family lives in, is a common denominator and an important element of the city. The dwelling house is the centre of family life and all its biological and social activities. A house is the families' favourite investment choice. Housing is closely associated with town planning as residential areas constitute the major landuse in any settlement - urban or rural. Other important aspects like population, national economy, urban land supply, the building materials and the construction industry are closely related with housing.

1.2 India contains 1/7th of the world's population. The life expectancy has increased from 23 to 45 years with the control of epidemics and famines and consequently resulting in the phenomenal increase in population. The increase in population was 77 million during the decade 1951-61 and the population projection indicates an anticipated increase of 120 million during 1961-71. Urban population increased from 62 million in 1951 to 79 million in 1961 and is expected to reach 112 million by 1971 and 152 million by 1981. While the pace of urbanisation in our country has been rapid, the growth of housing stock has lagged behind. The problem of housing shortage in the urban as well as rural areas has become acute. At the beginning of the Fourth Five Year Plan, the shortage of houses in the country was estimated at 88.7 million units i.e., 11.9 million in urban areas and 71.8 million in rural areas. This shortage is expected to increase annually by more than 2.0 million units. As against this, the new constructions are likely to be 300,000 units only per year. In India, 2 houses are built in a year for

every 1000 persons whereas the comparative figures for other countries are: 10.3 for U.S.S.R. , 10.2 for West Germany, 10 for Sweden, 7.2 for Japn and 6.5 for U.S.A.

2. Housing situation in Mysore State

2.1 Mysore is the eighth biggest in respect of population (2,35,86,772 in 1961) among the states in the country. The area and population of Mysore State have more than doubled after the States' Reorganisation in 1956. The growth trends and projections indicate that there is rapid increase in population. The rate of urbanisation in the State is 22.3% and it is higher than the all India average of 17.9%. The urban population is spread over 6 cities and 231 towns and the rural population is spread over 26, 377 villages.

2.2 The housing situation in the urban and rural areas of the State has worsened as the constructional activity has not kept pace with the population growth as evident from Table 1.

Table 1: Percentage increase in houses and the percentage growth of population during the decade 1951-61 in Mysore State.

Sl. No.	District	Percentage increase in houses between 1951 & 1961	Percentage increase in population during 1951-61
(1)	(2)	(3)	(4)
1.	Bangalore	13.2	17.74
2.	Belgaum	6.1	20.53
3.	Bellary	8.4	18.29
4.	Bidar	1.3	20.35
5.	Bijapur	3.2	18.87
6.	Chickmagalur	15.2	43.05
7.	Chitradurga	7.3	26.02
8.	Coorg	14.3	40.72
9.	Dharwar	4.4	23.80
10.	Gulbarga	2.6	15.31
11.	Hassan	8.9	25.27
12.	Kolar	6.1	14.18
13.	Mandya	10.0	25.49
14.	Mysore	6.9	17.32
15.	N. Kanara	13.5	33.17
16.	Raichur	5.6	15.44
17.	Shimoga	20.8	53.38
18.	S. Kanara	10.9	17.50
19.	Tumkur	8.9	18.76
State Average		8.3	21.57

The table shows that the rate of growth of houses is less than the rate of growth of population during the period 1951-61 in all districts, and hence housing condition deteriorated all over the State. This rate of growth has been less than 50% of the growth of population in all districts except in Bangalore and South Kanara. In Bidar district the rate of growth of houses has been only about 1/16<sup>th</sup> the rate of growth of population while in Bijapur district the rate is about 1/6 of the population growth. The housing shortage in the State was estimated at 5,50,000 units in urban areas and 9,00,000 units in Rural areas during 1967.

### 3. Quality of housing

#### 3.1 Rural Mysore

Tables 2 & 3 indicate the quality of existing housing stock in rural areas. It could be seen from these tables that nearly 50% of rural houses consist of mud walls and 35% of stone walls. Regarding roofing materials, houses with grass, leaves, reeds, thatches, etc., consist of nearly 30%.

Hence obsolescence rate is very high and it is nearly 50% when wall material is considered and 33% when roofing material is considered.

Table 2: Percentage of Census houses used wholly or partly as dwellings by wall materials - rural areas 1961.

Description	Percentage
(1)	(2)
Grass, leaves, reeds or bamboos	7.4
Timber	-
Mud	49.9
Unburnt bricks	2.0
Burnt bricks	4.7
C.I. Sheets or other metal sheets	0.1
Stone	35.4
Cement concrete	0.2
All other materials	0.3
<b>Total</b>	<b>100.0</b>

Table 3: Percentage of census houses used wholly or partly as dwellings by roofing materials- rural areas 1961.

Description (1)	Percentage (2)
Grass, leaves, reeds, thatch, wood or bamboo	29.4
Tiles, slate, shingle	32.1
Corrugated iron, zinc or other metal sheets	1.9
Asbestos cement sheets	0.1
Brick & Lime	-
Concrete & Stone slabs	3.9
All other materials	32.6
Total	100.0

### 3.2 Urban Mysore

3.21 Roof and wall materials: The following tables show the percent of houses built with various materials in class I cities in the State.

Table 4: Percentage of houses classified by wall materials for class I cities - 1961.

Sl. No.	City/Town with pop. of 50,000 or more	Grass, reeds, leaves or bamboo	Timber	Mud	Un-burnt bricks	Burnt bricks	C.I. Sheets or other metal sheets	Stone	Ce-ment concrete	All other materials
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	Bangalore	0.1	0.1	13.6	1.0	84.3	-	0.8	0.1	
2.	Mysore	-	-	49.0	-	50.8	-	0.1	0.1	
3.	Hubli	9.1	-	70.6	-	13.8	0.2	6.2	-	
	Dharwar	4.1	-	48.4	-	18.0	0.3	5.3	-	
4.	Mangalore	0.2	-	82.5	-	0.1	-	16.9	-	
5.	K.G.P.	20.3	-	15.4	-	20.1	2.1	17.3	15.6	
6.	Belgaum	1.6	-	39.1	26.7	24.4	0.3	7.0	-	

\*\*\*

**Table 5: Percentage of houses classified by roof materials in class I cities - 1961**

Sl. No.	City/Town with pop. of 50,000 or more.	Grass, leaves, reeds, thatch, wood or bamboo	Tiles, slate, shingle	C.I. Iron, zinc or other metal sheets	Asbestos Cement sheets	Brick & Lime	Con-crete & stone slabs	All other materials	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Bangalore	7.5	56.1	3.7	1.7	0.4	26.3	4.3	100	
Mysore	0.6	72.0	0.5	-	-	19.9	6.7	100	
Hubli -1	0.9	74.5	11.8	0.1	-	2.8	9.9	100	
Dharwar	1.7	81.8	5.0	-	1.4	-	10.1	100	
Mangalore	4.1	95.5	-	-	-	0.4	-	100	
K.G.F.	6.3	62.4	22.7	2.9	0.6	3.5	1.6	100	
Belgaum	0.7	89.0	1.7	0.9	-	1.8	5.9	100	

It could be seen from these tables that houses with brick walls are predominant in Bangalore and Mysore, while those with mud are predominant in Hubli and Mangalore. In the mining city of K.G.F. (Kolar Gold Fields) labour sheds are built with bamboos and other temporary materials. As regards the roofing materials, R.C.C. roofing is becoming popular in Bangalore and Mysore and nearly 26% of houses have terrace roofing in Bangalore. In Mangalore, where there is heavy rain fall and where tiles are manufactured, nearly 96% of houses have roofing with tiles, while it is about 89% in Belgaum, 82% in Dharwar and 72% in Mysore. In K.G.F. nearly 23% of houses have corrugated iron sheets for roofing. Considering the type of materials and methods of construction of houses in each district, it is found that traditional type of houses are built using predominantly the locally available materials.

**3.22 Overcrowding** The average size of a household in the state is 5.42. The 1961 census statistics indicate that about 40% of the households live in one room dwellings (Table 6). The average number of persons per room is 2.82 in the State.

Table 6: Percentage of census households according to number of rooms occupied (Based on 20% sample)

Sl. No.	City with No. pop. of 50,000 or more	No regular room	One room	Two rooms	Three rooms	Four rooms	Five rooms & above
(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Bangalore (c) & Trust Board area	4.0	55.3	21.8	8.6	5.3	5.0
2.	Mysore (M)	10.2	36.1	28.9	12.5	8.2	4.1
3.	Hubli (M)	-	35.6	35.0	14.9	8.1	6.4
4.	Dharwar (M)	-	25.0	28.9	17.8	11.8	16.5
5.	Mangalore (M)	-	37.2	27.7	15.8	7.9	11.4
6.	K.G.F. (S.B)	1.3	21.9	45.5	19.7	5.8	5.8
7.	Belgaum (M)	-	44.1	24.6	15.2	9.0	7.1

Note: C: Corporation. M: Municipality. S.B. Sanitary Board

The table gives the distribution of households according to number of rooms occupied in the year 1961. More than 50% of the houses in Bangalore and 30% to 40% in other cities are one roomed tenements, indicating severe overcrowding and acute housing shortage. It is evident from table that the housing situation in Class I Cities of the State is far satisfactory.

Table 7: Tenure status of sample census Households living in Census Houses used wholly or partly as dwelling. (Based on 20% sample)

City/Town	Tenure Status	Total No. of Household	Households in Census Houses used as			
			Dwelling	Shop-cum dwelling	Workshop-cum-dwelling	Dwelling and other uses
Bangalore Metropolitan Area (23.52 Sq.mile) (601.21 Sq.Km)	Total	39,445	39,036	160	181	68
	Owned	10,130	10,024	24	72	10
	Rented	29,315	29,012	136	109	58
Mysore (M) Area: 14.40 sq.mile (37.70 sq.km)	Total	8,912	8,800	11	94	7
	Owned	3,426	3,386	4	33	3
	Rented	5,486	5,414	7	61	4

Hubli-Dharwar						
Dharwar (M)	Total	2,476	2,430	2	44	-
Area: 6.50	Owned	1,212	1,139	-	23	-
Sq. mile	Rented	1,264	1,291	2	21	-
16.83 Sq. km						
Hubli (M)	Total	5,631	5,533	27	65	6
Area: 9.40 Sq.	Owned	2,011	1,963	15	32	3
mile	Rented	3,320	3,570	14	33	3
(24.35 Sq. km)						
Bangalore (M)	Total	4,999	4,694	30	236	39
Area: 8.40	Owned	1,569	1,499	6	50	14
Sq. miles	Rented	3,430	3,195	24	186	25
(21.76 Sq. Km.)						
Solar Gold	Total	5,481	5,429	35	12	5
Fields	Owned	1,401	1,388	11	1	1
Area: 7.75 Sq.	Rented	4,080	4,041	24	11	4
Mile						
(19.50 Sq. Km)						
Belgaum (M)	Total	4,424	4,221	34	89	10
Area: 5.40 Sq.	Owned	1,785	1,720	9	54	2
Mile	Rented	2,639	2,571	25	35	8
(13.99 Sq. Km)						

3.23 Temure The temure status of households is given in table 7. The proportion of owned buildings in Bangalore and K.G.F. is far below that in other cities of the State. This may be attributed to large scale migration due to employment opportunities created by industries in these two cities. The table gives details of households used in combination with other uses like shop, etc.

#### 4. State housing activity

4.1 The agencies engaged in acquiring and developing land for housing in the State of Mysore are: City Improvement Trust Boards in Bangalore and Mysore, Central and State Government Departments, Local bodies, Housing Board, Housing Co-operatives and private developers. The Mysore Housing Board is responsible for large scale house construction all other the State. By the year 1969, about 22,370 houses were completed and 10,699 houses were under construction. The main function of the Board is the construction of new houses, and to implement various housing schemes of the Union and the State Government apart from advancing loans to individuals.

Land Utilisation: The following table indicates the land utilisation for residential use and the density pattern in Class I cities.



Table 8: Existing Land utilisation and Density Pattern of Class I Cities - 1961.

Name of City	Popula- tion	Munici- pal area in acres	Area under Resi- dential use in acres	Residen- tial area for every 1000 persons in acres	Gross Density of popu- lation persons/ acres	Residential densi persons/acre	
						Lowest	Highest
Bangalore	9,05,134	16,467	8,183	9.01	52	25	700
Mysore	2,53,865	9,216	3,751	15.37	27	13	145
Hubli	1,71,326	6,016	1,350	7.95	27	50	300
KGF City	1,46,811	19,200	1,660	11.31	11	23	108
Belgaum	1,46,790	3,456	775	5.27	40	30	500
Mangalore	1,42,669	5,376	2,825	19.5	27	12	364

The above table shows that the residential density varies from 12 to 700 persons per acre. The marked variation could be seen in the cities of Bangalore, Mangalore, K.G.F. and Belgaum. This is mainly because of over-crowding in Central areas and thin population in the peripheral and rugged areas.

Unless positive measures are taken to develop and redevelop land for housing the situation in urban areas may deteriorate, leading to congestion, and overcrowding of houses. In order to encourage housing activities, sites for residential buildings have to be developed and made available both for the public housing and private housing.

#### Class I

#### 5. Housing in/cities of population of a lakh or more

The housing situation in each of the Class I cities of the State are discussed below.

5.1 Bangalore: Like any other Metropolitan Cities in India Bangalore is also faced with the problem of housing. The housing shortage in Bangalore Metropolitan Area was 1,20,000 units in 1967. The number of houses required is estimated to reach 341,800 units by 1971 and 459,000 by 1981.

There are about 112 slums spread over an area of approximately 200 acres accommodating more than one lakh population within the city limits. Besides slums, there

a vast housing stock which is qualitatively unfit for occupation. The following table indicates the condition of dwellings in Bangalore Metropolitan Area during 1961.

Condition	No. of Houses	Percentage
Good	61,300	31.40
Moderate	90,120	47.00
Bad	35,280	18.00
fit for demolition	7,056	3.60
<b>Total</b>	<b>1,95,756</b>	<b>100.00</b>

It could be seen from the above table that nearly 25 percent of the total housing stock in Bangalore is in bad and dilapidated condition. Unless alternative new housing is provided to replace such dwellings it is certain that these areas would soon deteriorate into slums.

Of the several agencies involved in house building activities, the role played by City Improvement Trust Board in providing new housing facilities in the metropolitan region is outstanding. Since its creation in 1945, it has laid out 22 city extensions and has formulated 65 other schemes. During the period 1961-1966 the Board has developed nearly 3,500 acres of land for housing sites and the number of sites allotted during the period is about 37,000.

The Mysore Housing Board plays the biggest role in house building activities. Apart from giving cash loans to the site owners for house construction, the Board has built so far 8,370 houses under subsidised industrial housing scheme, 2,365 houses under Low Income Group Housing scheme and 627 houses under the Middle Income Group Housing scheme within the limits of the Metropolitan region. Besides, 2,460 houses are built under subsidised rental housing scheme. Marginal contribution in solving the problem has also been made by the Bangalore City Corporation and other public undertakings. In the private sector there has been considerable construction activity. It is believed that private investment in housing may be of the order of Rs.5 million per year.

Compared to the growth of population, the rate of increase of houses per annum should have been of the order of 10,000 units. That is, at least Rs.800 million should have been invested during the last decade. But rough estimate indicates that an investment of slightly over Rs.100 million is made for house construction during this period.

**5.2 Mysore:** This is the second largest city in the State with a population of 2,53,865 in 1961. The Housing stock during 1961 was 49,055 and during 1965-66 it increased to about 52,050. The total number of houses required by 1971 is estimated to be about 60,970. Keeping in view, the present tempo of house constructional activity by different agencies, it is estimated that the shortage of houses by 1971 will be about 5,000 units. The City Improvement Trust Board, Mysore, which is mainly responsible for providing housing sites has developed since its inception in 1908, an area of 3,500 acres at a cost about Rs.40.3 million.

**5.3 Hubli-Dharwar:** Hubli is a major commercial and Industrial centre and its housing shortage in 1967 was estimated at 4900 units, Dharwar is the District Head Quarter and the housing shortage there was estimated at 400 units only during the same period.

There are about 30 slums in Hubli and nearly 35,000 dwelling units costing about Rs.1.8 million are required to house the increasing population by 1971.

**5.4 Mangalore:** Mangalore, a major port town of the state, is a commercial, industrial and educational centre in the West Coast. By completion of the major harbour project and the Hassan-Mangalore railway line, the city would acquire importance and the present population of the city may reach about 500,000 by 1981. The increase in population will be mainly due to large scale migration to the city. To meet the demand for housing it is estimated that about 50,000 additional dwelling units are required by 1981. In the Master Plan of Mangalore an additional area of about 8225 acres are earmarked for residential use and the total cost of acquisition of this land will be about Rs.46.0 million. Every attempt is to be made by all the authorities concerned to accelerate housing activities to cope with the increase in population and to avoid over-crowding and creation of slums.

**5.5 Belgaum:** Belgaum, one of the Divisional Head Quarters in Mysore State, is an educational and commercial centre. There were 19,633 houses and 26,789 households in 1961. The shortage of houses during this period was estimated at 7100 units. Between 1951 and 1961, the percentage increase in the number of households and houses was 51.18 and 16.55 respectively. The rapid increase in the number of households indicates subdivision of houses to accommodate more number of families, a result of acute housing shortage in the city. The net housing shortage by 1981 is expected to be about 35,000 units.

**5.6 K.G.F. City:** Housing condition in the mining city of K.G. F is far from satisfactory. There were 28,076 households against 27,620 houses in 1961. About 56% of the total number of houses are of temporary nature and 60% of the total accommodation is provided by the mining undertaking. There were about 9 slum pockets in the city covering an area of 15 acres and accommodating more than 10,000 persons. It is estimated

that 32,400 additional houses are required by 1985, i.e., at an average of 2,200 houses per annum.

The economic base of the city depended on a single industry i.e., gold mining. As the mining activities declined, the city lost its economic base and the up-keep of houses deteriorated. With the location of the Bharat Earth Movers Ltd., a Government of India undertaking, the city is regaining its economic activities. The new industry is building its colonies with new houses to accommodate the employees in the northern portion of the mining city. But the quality of houses in the old mining town is poor, particularly in the labour colonies.

## 6. Conclusion:

6.1 Being a basic necessity of the people, housing assumes importance next only to food and clothing. It is an urgent problem to be solved in the urban as well as rural areas. After the advent of the Five Year Plans, housing assumed importance and efforts are being made to solve the housing shortage. But, the gap to be filled is very wide and the problem is tremendous. This requires to be tackled both by public agencies and private organisations, including individuals, so as to create a better housing situation in the country.

6.2 Because of housing shortage there is over crowding and more number of people share small houses, some times with or without a room. In England, overcrowding is defined in legislation as more than one and a half persons to a room. In 1966, 1.2% of households were living in overcrowded conditions and 2.8% five years earlier. But, in India, the situation is far from satisfactory, particularly in metropolitan cities. It can be seen from table 6, that in Bangalore, nearly 65% of households have single room accommodation, which means that more than 5 persons share a room. The environmental conditions of many housing areas in the towns and villages are very poor and unhygienic. Every effort is to be made not only to improve the environmental conditions but also the quality and stock of houses, both in the urban and rural areas.

6.3 To achieve these objectives, there has to be a continuous effort to add the required number of houses both in the public sector and in the private sector. Housing activity to be effective, requires land development programme to be pursued side by side. For want of residential sites, many a times, people will be forced to sub-divide existing houses and create congestion leading to deterioration in environmental conditions. It is therefore necessary to acquire and develop land for housing activities, in areas where there is demand for new houses. It is roughly calculated that nearly Rs.1100.0 million are needed to acquire and develop land for constructing about 5,50,000 new houses, to meet the shortage in the urban areas of the State. In the 26,377 villages of the State, nearly 900,000 new houses are to be built and the land required for constructing these houses may cost about Rs.45.00 million on the assumption that each house site in the rural area may cost about Rs.500/-.

6.4 Imagination and ingenuity are necessary in tackling the problem of housing. Methods must be tried for releasing the skills, energies and capacities of the ill-housed persons themselves. This approach helps to find new resources for house financing and for developing building industry. In other words "aided self-help" technique has to be encouraged to supplement the activities of public housing agencies in meeting the housing demand. In many parts of the State people are well trained to build houses with locally available materials and talent. Unless this aspect is recognised and realistic efforts are made to solve the housing problems, the desired goal may not be achieved soon.

6.5 In the urban areas, the old tendency of everyone having individual houses is predominant. Considering the availability of land, cost of construction, travel time to place of work, length of roads and service mains and a host of other urban problems, it is necessary to give a lead for the construction of multi-family dwelling units. The State Housing Board and the House Building Co-operative Societies can play a vital role in this direction and set new trends in house building activities.

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Housing Stock and situation - their nature and characteristics in Southern Region of India - with special refermce to Kerala

by

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Summary

The paper deals with housing stock, housing situation and housing shortages. The paper shows Kerala in 1961 had highest vacancy rate and residential houses per thousand persons among States of Southern Region of India. Nearly 15 lakh dwelling units in rural areas and 1.6 lakh in urban areas in the State were according to 1961 Census data sub-standard. To maintain 1961 housing level, nearly 8 lakh and 47 lakh additional housing units in Kerala and Southern Region respectively are required calling for an investment of Rs. 400 and Rs. 2350 crores.

1. Introduction

Housing is one of the prime necessities of human beings. There is increasing consciousness at all levels about the need for providing proper housing facilities to all classes of population. In this paper an attempt has been made to give an idea of the nature and characteristics of the housing stock in the Southern Region of India comprising the States of Tamilnadu, Mysore, Andhra Pradesh and Kerala.

2. Housing Stock in Southern Region

Data on housing stock in India are available mainly from the population censuses. The total number of census houses in the southern region at the time of the 1961 census house listing was about 255.90 lakhs which accounted for about 23.7% of the total census houses in India while the population of the region was 25.1% of the all India population. The vacant houses in the region formed 7.0% of the total houses. The houses used as dwelling units either exclusively or in combination with shops or workshops numbered about 207 lakhs which constituted 80.7%(Table 1) of the total number of census houses in the region. The number of occupied residential houses per 1000 of population in the region as per 1961 census worked out to 187, compared to 180 for all India (Table 2)

Contd.....2/-.

Table 1: Distribution of Census Houses Houses by use (1961)

State	Total Census houses	Vacant Houses	Dwellings, Shops cum-dwellings & workshop cum-dwellings.	Others
Tamil Nadu	100	6.8	86.2	7.0
Mysore	100	8.1	73.8	18.1
Andhra Pradesh	100	5.9	80.2	13.9
Kerala	100	8.5	81.5	10.0
Southern Region	100	7.0	80.7	12.3
India	100	5.8	73.5	20.7

Table 2: Number of residential houses per 1000 of Population (1961)

State	Population (lakhs)			Number of residential houses (in lakhs)			No. of residential houses per 1000 of population		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Tamil Nadu	336.87	246.96	89.91	67.23	51.35	15.88	200	208	177
Mysore	235.87	183.20	52.67	41.69	32.78	8.91	177	179	169
Andhra Pradesh	359.83	297.09	62.74	70.22	59.42	10.80	195	200	173
Kerala	169.04	143.50	25.54	27.54	23.85	3.69	163	166	145
Southern Region	1101.61	870.75	230.86	206.68	167.40	39.28	187	192	170
India	390.73	3601.43	789.30	792.23	651.60	140.63	180	181	178

Kerala recorded the lowest ratio in respect of number of residential houses per 1000 of population

Contd. .... 3/-.

206.68 lakhs of residential houses in the southern region were occupied by about 212.80 lakhs households (Table 3) and tenure status of the households is in table 4.

Table 3: Residential houses and households

State	No. of residential houses (lakhs) (1961 census)			No. of households (1961 census)		
	Total	Rural	Urban	Total	Rural	Urban
Tamil Nadu	67.23	51.35	15.88	71.05	53.25	17.80
Mysore	41.69	32.78	8.91	42.35	33.20	9.15
Andhra Pradesh	70.22	59.42	10.80	71.30	60.10	11.20
Kerala	27.54	23.85	3.69	28.10	24.25	3.85
Southern Region	206.68	167.40	39.28	212.80	170.80	42.00
India	792.23	651.60	140.63	835.55	687.10	148.45

Table 4: Tenure Status of Households (1961)

State	% of households living in houses	
	owned by them	Rented by them
Tamilnad <sup>u</sup>	Total	79.6
	Rural	90.2
	Urban	48.0
Mysore	Total	77.6
	Rural	86.0
	Urban	47.1
Andhra Pradesh	Total	90.3
	Rural	95.9
	Urban	60.5
Kerala	Total	88.1
	Rural	90.5
	Urban	71.7
Southern Region	Total	85.1
	Rural	91.5
	Urban	53.3
India	Total	85.2
	Rural	93.5
	Urban	46.2



### 3. Housing Conditions in Southern Region

3.1 Assuming that each households require a separate dwelling unit and ignoring for the moment the nature of the houses it would appear that the housing shortage is of a low order. But the problem of housing shortage has to be studied in relation to the type of structures, number of rooms, number of persons per room etc.

3.2 The material of wall is important in judging the worthiness of a house. Considering grass leaves, reeds, bamboos, muds and unburnt bricks as sub-standard materials the percentage of houses to be declared as sub-standard is given in table 5.

Table 5: Distribution of residential houses by type of wall (1961)

State		Total	Grass leaves, reeds bamboos, muds and unburnt bricks	Others
Tamilnadu	Rural	100	77.3	22.7
	Urban	100	42.8	57.2
Mysore	Rural	100	59.3	40.7
	Urban	100	43.3	56.7
Andhra Pradesh	Rural	100	72.5	27.5
	Urban	100	46.7	53.3
Kerala	Rural	100	62.1	37.9
	Urban	100	44.1	55.9
Southern Region	Rural	100	70.0	30.0
	Urban	100	44.0	56.0
India	Rural	100	76.9	23.1
	Urban	100	32.1	67.9

The sub-standard houses have to be rebuilt. The number of such units on the region works out to about 117 lakhs in rural areas and about 17 lakhs in the urban areas. So far as Kerala is concerned the number is about 15 lakhs in rural areas and 1.6 lakhs in the urban areas.

3.3 In regard to material of roof, the position is as given in table 6.

Table 6: Distribution of residential houses by type of roof (1961)

State			Grass leaves reeds, thatch, wood or bamboo	Tiles	Concrete	Others
Tamilnadu	Rural	100	66.4	27.6	1.6	4.1
	Urban	100	32.5	43.1	4.6	14.8
Mysore	Rural	100	29.4	32.1	3.9	34.6
	Urban	100	12.4	49.0	12.7	25.9
Andhra Pradesh	Rural	100	62.7	20.1	1.5	15.7
	Urban	100	37.2	33.6	4.7	24.5
Kerala	Rural	100	77.0	21.9	nil*	1.1
	Urban	100	56.7	42.7	0.5	0.1
Southern Region	Rural	100	59.4	25.0	1.9	13.7
	Urban	100	31.6	43.9	6.0	13.5
India	Rural	100	46.0	35.4	2.0	16.6
	Urban	100	20.0	34.9	15.4	29.7

3.4 According to the 1961 census 3.6% (Table 7) of the households in the region were reported to have no regular room. 53.7% lived in one room houses, 23.8% in 2 room houses, about 8.8% in 3 room houses, 3.9% in 4 room houses and 4.2% in houses with 5 or more rooms.

Table 7: Distribution of per thousand Census households according to the number of rooms occupied (1961)

State	No regular room	1 room	2 rooms	3 rooms	4 rooms	5 or more rooms	Not stated
Tamilnadu	38	656	187	58	26	21	14
Mysore	106	408	301	108	43	34	..
Andhra Pradesh	0	645	222	71	33	29	..
Kerala	14	320	316	180	83	87	..
Southern Region	36	557	238	88	39	42	..
India	13	490	264	113	59	61	..

3.4 The average number of persons per room in the region was 3.08 for rural and 2.60 for urban as against 2.53 and 2.61 (Table 3) respectively for India as a whole. In one room dwelling, in the rural sector of the region the average number was 4.43, in two room dwellings 2.67, in 3 room dwellings 2.04 and in 4 room dwellings 1.69. The position was more or less the same in the urban sector also. If average standards of 2.5 persons per room and 2 rooms per housing unit are used, about 19 lakhs new rooms would be needed to eliminate existing overcrowding in the houses in the region.

Table 3: Average number of persons per room (1961)

State	Rural					Urban				
	1 room	2 rooms	3 rooms	4 rooms	5 and above	1 room	2 rooms	3 rooms	4 rooms	5 and above
Tamilnadu	4.23	2.58	1.90	1.58	1.11	4.13	2.58	1.92	1.60	1.21
Mysore	4.74	2.75	2.16	1.84	1.33	4.39	2.71	2.01	1.74	1.31
Andhra - Pradesh	4.2	2.57	1.96	1.61	1.05	4.24	2.59	1.46	1.67	1.14
Kerala	4.9	2.89	2.10	1.69	1.22	4.97	3.65	2.20	1.82	1.19
Southern - Region	4.43	2.67	2.04	1.69	1.16	4.24	2.66	2.01	1.68	1.21
India	4.04	2.62	2.01	1.68	1.30	4.17	2.69	2.06	1.73	1.28

3.5 The number of new rooms to be provided in Kerala would work out to about 9 lakhs. The financial commitment for this at the rate of Rs. 2000/- per room would be about Rs. 180 crores.

#### 4. Housing in Kerala

4.1 Village life in Kerala is different from that in most of the other States in India. Geographical factors and custom, tradition etc. have contributed to this. In almost all the States of India, dwelling clusters can be seen in the rural parts occupying a limited area of land surrounded by cultivated or waste lands. There will be stretches of areas without habitation between one cluster of dwellings and another. But in Kerala the habitations are seen spread out all over the urban and rural areas. Each house in the village will be at some distance from the other. Every village merges gradually with another which in turn merges with a semi-urban or urban area. Kerala presents almost a 'continuous town' or a 'continuous village'. The number of occupied residential houses per Sq. K.M. from 1921 to 1961 in the various districts of Kerala was as in Table 9.

Table 9: No. of occupied residential houses per sq K.M.

District	1921	31	41 <sup>a</sup>	51	61
Trivandrum	55	67	83	100	132
Quilon	29	36	45	54	70
Alleppey	96	114	129	144	171
Kottayam	19	25	29	32	47
Ernakulam	47	53	66	74	90
Trichur	48	56	65	74	90
Palghat	40	43	47	49	60
Kozhikode	37	40	45	49	64
Cannanore	27	30	34	37	49

The congestion per room was more or less even in all the districts of Kerala.

4.2 According to some recent surveys conducted by the Bureau of Economics and Statistics, Government of Kerala about 73% of the dwelling houses in the state are owned and 6% rented in. About 16% fell under the category of Kudikidappukar/Kudiyiruppus. These are persons who having no homestead or land either as owner or as tenant in possession has been permitted (with or without obligation to pay rent) to have the use and occupation of a portion of land belonging to another for purpose of erecting a homestead or who has been permitted to occupy a hut belonging to the owner of the land. Otherwise, he has no interest in the land. Under the recent land reforms substantial benefits have accrued to these classes of people. They can claim about 10 cents in rural areas and 5 cents in urban areas of the land in which their dwellings are situated on payment of a nominal compensation. With this change in the tenurial status these classes of people may want improvement of their houses which are mostly sub-standard.

#### 6. Collection of data on housing.

There has been no systematic arrangement for collection of data on increase in the housing stock since 1961. Under a scheme sponsored by the National Buildings Organisation, Government of India, some effort has been made to collect at least partial data in this respect. But the scheme has been implemented at different points of time in various States. In Kerala the scheme started functioning from 1967. Under the scheme data are collected on the number of new buildings constructed by the private sector in the Corporation and Municipalities and by the P.W. D. in the urban and rural areas

7. Conclusions

Additional housing units are necessary to provide for the growth in population. The population of the southern region would have increased by about 253 lakhs during the period 1961- 1971. Even to maintain the 1961 level of availability of dwellings in terms of population the number of additional units to be provided for during the decade worked out to about 47 lakhs units. In respect of Kerala the number of units is about 8 lakhs. At a modest estimate of Rs. 5000/- per unit of 2 rooms, the investment required for this alone is of the order of about Rs. 2350 crores for the region and Rs. 400 crores for Kerala. Data on the actual investment are not available. There is need for a proper system of continuous collection of data on increase in housing stock during the inter censal period and the financial investment on housing.

## HOUSING STOCK AND SITUATION IN TAMIL NADU

by

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### Summary

(The paper describes the housing situation as revealed by the 1961 House-listing operation of 1961 Population Census and the current housing activity in the state. The paper brings out that the tempo of building activity is not in consonance with the rate of growth of population. The shortage of housing in 1968 was estimated at 1.90 millions, which require an investment of Rs.1100 crores. This is a stupendous task but needs urgent attention)

#### 1.0 Introduction:

1.1 Housing Constitutes one of the basic amenities of human life which largely lends to share the character of the population. The activity of any welfare State is logically aimed at providing suitable and adequate housing facilities and community amenities to its population. Government both at the centre and state are focusing their attention on the need for devising measures which could alleviate the housing problems of the teeming population. It is needless to say that the problem of housing has to be tackled on war footing, as in the case of agriculture.

1.2 Among the States of Southern Region Tamil Nadu has the highest density of population, next to Kerala. Tamil Nadu with its area of 50,331 sq.miles, comprises of fourteen districts. Of the total geographical area, 5197 square miles is the available space to accommodate the population of 33.69 millions as per 1961 census. Of the total population of 33.69 millions in Tamil Nadu, as per 1961, Census, urban population is in the order of 9 millions, whereas the rural population is in the order of 24.69 millions. The following table gives area, population and density in urban and rural areas of Tamil Nadu.

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\* Density of population per square mile in Kerala, Tamil Nadu, Andhra Pradesh and Mysore in 1961 was 1127, 672, 339 and 318 respectively.

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Table (1): Area, population and density in Tamil Nady by regions

Urban/ Rural	Area in square miles	Population in millions	Density per square mile
Urban area	2016	9.00	4459
Rural area	48139	24.69	513

The pressure on space is more in urban areas than in rural areas due mainly to the industrial growth in and around urban area and influx of population from country side in search of better employment opportunities and availability of better living conditions.

1.3 The distribution of population in urban areas of Tamil Nadu in comparison with the other States of the region is worth studying for a proper assessment of the situation in Tamil Nadu.

State	Ratio of Urban/Rural population
Tamil Nadu	27 : 73
Andhra Pradesh	17 : 83
Mysore	22 : 78
Kerala	15 : 85

It is to be pointed out here, that a much larger segment of population lives in the urban areas in Tamil Nadu than in other States. The average number of persons living in an household works out to 6.41 as per 1961 census, whereas the figure for rural area is 4.93.

In the urban areas of Tamil Nadu, there are 1.59 million households which accommodate 9 million in an area of 2016 sq.miles.

2.0 Characteristics of Houses in Tamil Nadu:

2.1 The following table depicts the characteristics of houses in urban and rural areas of Tamil Nadu in terms of

Pucca and Kutcha houses. The particulars relate to data collected under National Sample Survey (State Sample) in 1968-69:-

AREA	Number			Percentage		
	Pucca	Kutcha	semi Pucca	Pucca	Kutcha	Semi pucca
Urban	324	179	112	52.7	29.1	18.2
Rural	179	322	149	27.5	49.5	23.0

This points out to the problem is of existing gap between demand and supply of houses on account of sub-standard structures of the existing housing stock.

### 3.0 Housing Activity:

3.1 There has been a steady increase in the construction activity in Tamil Nadu in the recent years. The investment in housing construction has registered a steady increase. The number of houses constructed upto 1969 by the Tamil Nadu Housing Board and other designated agencies are shown in tables (2) and (3):

Table (2) House Accommodation(Plan Schemes)

Name of Scheme	Agency	Number of Houses completed		
		Second Plan	Third Plan	During 1966-67 1967-68 & 1968-69 (December 1969)
1. Subsidised Industrial Housing Scheme.	Public Sector	2074	3500	171
	Co-operative Sector	712	1343	537
2. Low Income Group Housing Scheme.	State Housing Board	824	1420	603
	Co-operative sector	1421	1791	513



3. Slum Improvement Clearance Scheme	State Housing Board	1347 (Open	6491 Developed	746 Plots)
			2331 (Tenements)	4768
4. Plantation Labour Housing Scheme	Commissioner of Labour	155	--	195
5. Village Housing Project Scheme	Rural Housing Cell	131	2053	387
6. Land Acquisition and Development Scheme	State Housing Board	358 (acres)	2321 (acres)	804 (acres)

Table(3) Housing accommodation(non-plan schemes)

Name of Scheme	Agency	Number of Houses completed		
		Second Plan	Third Plan	During 1966-67 1967-68 & 1968- (December 69)
1. Middle Income Group Housing Scheme	State Housing Board	29	601	550
	Co-operative Sector	37	801	141
2. Rental Housing Scheme for the Low Paid Employees of the State Government	State Housing Board	--	1364	2872
3. Rural Housing Scheme	Registrar of Co-operative Societies	326	510	195
4. Urban Housing Scheme	Registrar of Co-operative Societies	1691	1948	42

The performance of the Tamil Nadu Housing Board, though it is encouraging, needs further impetus.

3.2 The particulars on number of building permits issued and number of buildings constructed during the year 1964-65 to 1967-68 in Municipalities of Tamil Nadu, furnished below will indicate the tempo of building activity in private sector.

Year	Number of building permits issued,	Number of building constructed,
1964-65	13693	8,309
1965-66	16,036	10,547
1966-67	18,133	12,957
1967-68	18,353	11,107

4.0 Trend in demand and supply:

4.1 The rate of growth in population has reached explosive level. Modern medical science has eradicated epidemics and has also increased longevity. The tempo of building activity is generally not in consonance with the rate of growth of population. The estimated shortage of houses in Tamil Nadu in 1968 is 1.90 millions which would involve an investment of about Rs.1100/- crores if the shortage is to be covered in full. To meet this demand is indeed, a stupendous task. There is however urgent need for devising measures to bridge the gap between demand and supply position of housing facilities in Tamil Nadu.

Demographic Factors Affecting Housing Needs  
With Special Reference to Southern Zone of  
India

by

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Summary

With special treatment of demographic factors the paper describes various other factors like social, economic & psychological, which determine housing needs. Household formation, their dissolution and size and composition of households are important variants of housing needs. The paper further discusses the demographic situation in the southern Region of India. It has been brought out that mortality and fertility will exhibit a downward trend in the near future and with improved educational level, rise in the age at marriage and better economic conditions of the people, aspirations and hopes for formation of new households by newly married couple will increase bringing in a consequent rise in demand of new housing. The need for stepping up of housing activity by mobilising resources both national and international has been emphasised.

The paper has pointed out absence of data about basic housing stock and housing condition for formulating housing programmes and the need for their development through housing Census and sample surveys.

1.0 Introduction:

1.1 Food, clothing and shelter are the three basic necessities of life. Shelter or housing is not only an individual need it also has ramifications in terms of groups-families.

1.2 Housing is one of the most durable investment goods, the capital output ratio being rather high. The house building industry affects the economy, employment, investment and savings and national income generation and is of utmost importance to the over crowded developing countries because it is also labour intensive.

1.3 Every human being requires shelter for protection. A modern man needs it not only for mere protection, but also to satisfy his diverse requirements. Shelter is a basic unit of production and reproduction.

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## 2. Importance of housing and shelter:

2.1 A house is not merely a shelter from the elements, it is an effective protection from disease and death dealing agents which may attack him if the environment surrounding his habitation is unhygienic. It is well known that the incidence of infectious diseases is higher in unhygienic shelters and the death and debility rates also are higher among the poorly sheltered. Old and decrepit abodes are unhealthy for persons to stay and also are risky to limb and man. Even protected water supply, sewage disposal, lighting and ventilation are important factors to be taken account of in the choice of shelter as they are known to be directly related to morbidity and mortality and hence working capacity, productivity etc. In slum areas the incidence of crime is much higher and juvenile delinquency rampant.

2.2 The high growth rate of population, the large rural-urban movement, the slow progress in building construction etc. have aggravated the problem of housing. High rents and the general poverty of the masses have made the housing situation for the general masses precarious.

2.3 In most of the developing countries with low levels of living such high rents will be beyond the reach of most and paradoxically they will have to spend much more out of their meagre incomes even for substandard shelter. In India for example 10% of income on rent for an industrial working family is beyond reach. Only 5% of the rural population and 12% of urban population could afford the economic rent of a low cost dwelling.

2.4 The importance of housing cannot be over emphasised in view of the social and economic benefits which accrue from adequate shelter. The failure to settle the problems of housing in the important cities, threatens not only the industrialisation programme of the developing world but also puts in jeopardy the mainstay of the population i.e. agriculture and also threatens world stability.

2.5 The urban housing shortage in India in 1961 was estimated at 9.3 million units, and is expected to grow fast due to sluggish housing construction. In cities with population of 50000 and over, 30% of the population were estimated to be living in what are known as slums. The rural housing problem in India with 80% of its population is described in the Third Five Year Plan as next in importance to food. More than 90% of rural houses require reconditioning or rebuilding. Basic amenities like protected water supply, sewage disposal etc. are mostly unavailable.

2.6 Investments in housing and urban development measures are growing fast only in a few ECAFE countries. In India, in the First Plan period, the amount invested in housing was 34% of total plan investment, whereas it is estimated that it will be about only 7% of total investment in the Fourth Plan. In the most recent period, PL 430 funds and US AID are being planned for a massive attack on the huge backlog of housing construction and housing rebuilding and repairing. Urban renewal and especially clearance of slums and squatter colonies making available pure water and waste disposal facilities etc., also are envisaged.

2.7 Most countries of the world are planning to provide better housing facilities to their masses. In addition, some of the Asian countries require advance planning in housing especially in urban areas with a view to avoid the formation of slums, blight areas etc. The coordination of work of town-planners, demographers and administrators will go a long way in solving these anticipated problems.

2.8 Especially in India the part to be played by these three groups in housing planning has been recognised and ameliorative actions to ease the situation are being envisaged as part and parcel of social and economic transformation of the country. The Green revolution which has thrown up its potentialities for improving the living levels of the rural masses, calls for immediate action on the housing and other infrastructure fronts so that the fruits are fully realised. One of the bottle necks faced with bumper crops was lack of proper storage for the food materials. The poor housing conditions may also have been responsible for higher disability rates among the population and thus hampering the reaping of full benefits already within reach thanks to science and technology.

### 3.0 The Problem:

3.1 In this paper we shall consider the major factors affecting housing needs with special emphasis on the demographic factors keeping in view the implications of the same for housing needs in the southern Zone of India. By Southern Zone of India we mean the States or territories of Andhra Pradesh, Mysore, Kerala, Madras, Pondicherry and Laccadive-Minicoy Islands.

### 4.0 Factors affecting housing needs:

4.1 Housing needs are influenced by several socio economic, psychological, physical and demographic factors.

Factors like tradition, custom, cultural moves, joint and extended family systems etc., are some of the sociological factors which affect housing needs. Most of the over crowding and substandard housing are due to economic reasons. Psychological factors like discrimination, seclusion, traditional family system, personal attachments to a house or particular locality may also aggravate the problem of housing. Some physical factors like vacancies, conversions and replacements, life of buildings, the homeless population, and even destruction of houses through natural or other causes like floods, fires, hurricanes etc., also affect housing needs.

4.2 The basic demographic variables of fertility and mortality play important roles in housing needs. Over crowding, doubling up etc., crop up as a direct result of high fertility and mortality and low income levels. Glick<sup>(1)</sup> concludes that the rate of household growth will continue to exceed the rate of population growth as long as the decline in household size continues as in Western countries. Lowered fertility and mortality may bring in declines in household size through smaller family sizes and more chances of family split up through survival of parents to older ages. Family formation and dissolution and the life cycle of the family thus play vital role in determining housing needs. It was found by the UN<sup>(4)</sup> that with constant fertility and declining mortality there was a moderate increase in average household and family size, and increase in large size households and families, little or no increase in headship rates and little or no increase in proportion of nuclear families whereas a decline in fertility with a small decline in mortality brought in a decline in average household and family size, an increase in the proportion of small size households and families, an increase in headship rates and an increase in proportion of nuclear and single member family and household. They thus conclude that during a period of social and economic development the average size of household will tend to decline.

(5)

4.3 The UN also provides tables of housing needs for the large number of combinations of population growth rates, average household size and percentage of population to be sheltered and provided. These tables are of great value to developing countries in their housing planning. Internal movements and especially rural to urban migration and seasonal migrations are influential factors in affecting housing needs. We have already alluded to the housing problem created by migrants to cities and towns and the formation of slums and squatter colonies. Along with over crowding and substandard housing in urban areas, vacancies may exist in rural areas from where the migrants originated. Many times rural to urban

migration may not create a corresponding alleviation of the housing situation in the rural areas because of large population increase through births and deaths and move over the housing situation in the rural areas are generally so poor that they may not under any definition be considered as adequate housing. Again some of the bare necessities for adequate living in urban areas like water supply and sewage and waste disposal may not be as important in villages with vast open spaces and wells or rivers.

4.4 The institution of marriage has a tremendous implication on housing needs. Generally a shelter is needed for bearing and rearing of children. Thus age at marriage, marriage proportions at various ages and duration of marriage are important factors affecting housing need. Mortality affects marital distribution through widow or widowerhood and this break in the family may trigger off family fission or fusion. Again migration of a spouse for economic reasons may necessitate establishment of more than one housing. We shall now consider the situation as it exists in the Southern Zone of India and also indicate some future prospects.

5.0 Demographic situation in Southern zone - India:

5.1 The Southern Zone of India as already defined had a population of 94.52 millions in 1951 and 110.55 millions in 1961 with sex ratios of 101 in 1951 and 102 in 1961. The proportions at the various ages were:

Year		Age			
		0-14	15-44	45-64	65+
1951	M	37.4	45.1	14.6	2.9
	F	37.4	45.6	13.9	3.1
1961	M	40.0	43.1	13.8	3.1
	F	39.9	43.9	13.0	3.2

We see that the population increased by about 16% during the decade whereas the All-India increase was around 20%. The sex ratio has remained more or less stable over the period but the age distribution has indicated slight increase at the very young or old age. A decline in mortality with very little or no decline in fertility can be anticipated to bring in this pattern or else it could be more out migration at the adult ages.

5.2 There has been a tremendous decline in mortality in the country during the decade following independence due to concerted efforts on the public health front, food distribution and availability and general economic and social development. On the other hand, declines on fertility could only be marginal due to the fact that concerted efforts on the family planning front started in the country only in the sixties and there were only isolated cases of groups practising family limitation even in the southern states where education and literacy had progressed much farther than in other States of India. The Southern Zone had a lower expectation of life at birth than all-India during 1951-61 but was highest in 1941-51.

5.3 The out-migration of persons from Kerala, Madras and even Mysore and Andhra Pradesh to the other parts of India and abroad especially at the young adult ages is well known even though not well documented. The lower growth rate in the Southern zone as compared with that of India's is indicative of some out-migration even though higher mortality may also have been partially responsible.

5.4 From the place of birth statistics it is noted that the net life time out-migrants from southern zone was 447 thousand in 1951 and 912 thousand in 1961 and that during the decade even though Mysore and Andhra Pradesh gained population marginally through migration, Kerala and Madras lost heavily (around 650 thousand persons in all). During the previous decades as well the southern zone had been consistently losing population through migration but the decade 1951-61 saw a tremendous spurt in the out-migration volume. Whereas during 1901-11, 1911-21, and 1921-31 the total net out-migration from southern zone was 216, 296, and 139 thousands respectively the 1951-61 net out-migration was estimated to be 532 thousands. More details are available on migration in "Population redistribution and economic change, India 1951-61" (6). Internal movements and other factors have brought in urbanisation. In the southern zone the urban proportions showed an increasing trend during all the period since 1901. It was only 11.5% in 1901 and increased to 20.1% in 1951 and 21.0% in 1961. The apparent sluggish growth in urban population during 1951-61 is more of an artefact than anything else due to definitional changes. The urbanisation pattern in India as a whole also showed a similar trend-increasing from 10.8% in 1901 to 17.3% in 1951 and 18.0% in 1961.

5.5 The marital status distribution in Southern zone as compared with that of India brings out to clear focus at least two important points. (See Table 1).



Table 1: Marital status distribution, India and Southern Zone, 1961 by age groups by sex.

Age	Never married		Married		Widowed		Divorced etc.	
	M	F	M	F	M	F	M	F
0-14	98.0	94.8	1.9	5.1	.02	.05	.05	.05
15-34	37.4	9.7	60.6	86.7	1.4	2.7	.06	.9
India 35-49	4.0	0.6	89.5	79.1	5.7	19.2	0.8	1.0
50+	3.2	0.6	76.2	37.7	19.9	61.1	0.7	0.7
0-14	99.6	97.1	0.4	2.8	.00	.03	.02	.05
15-34	48.7	14.0	49.8	81.0	0.8	3.2	0.7	1.8
South Zone 35-49	2.9	1.0	91.9	74.2	4.2	22.7	1.1	2.2
50+	1.6	0.6	30.7	32.1	16.8	66.2	0.9	1.1

The first one is that unlike in the country, the proportion never married at the rather young ages is larger in southern zone. The other point is that among females the proportions widowed and divorced are higher in southern zone as compared with India. The higher divorce rates in southern zone has come through the higher rates in Kerala and Madras which have sizeable Christian populations and have also comparatively higher educational and literacy levels. The high widowhood rates in southern zone has come mostly through rather high rates in Andhra Pradesh, Mysore and Madras. Even though mortality could be lower in these States as compared with India as a whole, the possibilities of differentials in mortality between the sexes due to social and economic reasons and prevalence or non-prevalence of widow remarriage due to tradition and culture may have brought in these patterns. The mean age of females at marriage are 15.3 in India compared to 15.1 in Andhra, 19.8 in Kerala, 18.3 in Madras and 15.8 in Mysore. Thus the overall average age at marriage of females in south zone will be higher than that of India. With the fall in mortality and anticipated changes in attitudes towards marriage one may expect vast changes in the marital status distribution in the future. For example, when mortality

declines the median age at widowhood increases. When  $e_0^v = 35$  and age at marriage of females is 15, the median age at widowhood is 42.4 whereas it is 54.9 and 61.2 respectively when  $e_0^v = 50$  and 60. Similarly when the female age at marriage is 20, the median age at widowhood is 44.8, 56.0 and 61.6 respectively when  $e_0^v = 35, 50$  and 60. The mean duration of fertile union will show an increase when mortality declines and thus families will stay as a unit for a longer period of time before mortality breaks it up and hence chances for family fission through marriage of grown up children becomes larger. On the other hand, if marriages are postponed for a later age, as usually happens when economic and social changes take place, then children may stay with their parents for a larger period before establishing their own families. Thus an increase in age at marriage could be taken to affect housing needs inversely. Divorces which may increase when economic and social developments take place and traditionalism gives way to progressive ideas and change, also may result in increased housing needs. Widow remarriage also may affect housing needs directly.

5.6 The fact that mortality is going to decline still further in the Southern Zone and that education, economic and social developments are bound to take place as well, augur that the housing needs will be affected. But since some of these factors have positive and others negative effects one cannot quantify the net effect of all these changes. However, one can safely predict that as economic situation improves, the tendency for family fission and break up of joint and extended families will increase necessitating more houses for the population through larger demands for housing.

5.7 Regarding the future population prospects of Southern Zone, the Expert Committee<sup>(2)</sup> estimated that the population will be 122.3, 136.0, 150.6 and 163.5 millions respectively in 1966, 1971, 1976 and 1981. Of these the urban proportions estimated are 21.9, 22.8, 23.8 and 24.7 respectively. Thus we see that population is increasing at a rather high rate and urbanisation is also going to proceed at an accelerated pace. The large cities and especially the private cities like Madras, Bangalore, Mysore, Hyderabad, Trivandrum and Madurai may grow at very high rates through migration necessitating urban planning including housing, water supply, transport, sewage disposal etc.

#### 6.0 Housing statistics in India:

6.1 In India, 'housing census' which is the most valuable source of data for assessing the housing situation and estimating housing needs, has never been carried out separately. However, house numbering and house listing has been an

essential preliminary to the population censuses held every ten years in India. Upto 1951, each state was designing its own house list form. Due to differences in definitions and consequently methods adopted, the collected information could not be utilised. In the 1961 population census, a house-listing schedule was introduced and some detailed housing statistics were collected. In this census the following information related to housing statistics\* were collected and published: (i) the use to which a census house is put (ii) its tenure status (iii) the predominant material of its walls and roof (iv) the size of a household in a residential census house (v) the number of rooms occupied by a household and (vi) houseless and institutional populations.

6.2 The National Sample survey has collected some housing statistics especially on housing amenities, facilities and conditions but since they are not specifically available for the southern Zone, we will not go into details here.

#### 7.0 Housing situation in India with special reference to the southern Zone:

7.1 In 1951 out of 58.7 million occupied houses in the country, Andhra Pradesh, Kerala, Madras and Mysore had a total of 16.7 million. A number of households were 65.7 million in India and 19.1 million in the four States of Southern zone. The number of households per 1000 occupied houses was 1119 in India and 1126 in Andhra, 1079 in Kerala, 1208 in Madras and 1104 in Mysore. Thus whereas Kerala had a much smaller doubling up of households, Madras had a larger number. Andhra and Mysore were near the all-India average. Even in the country a 12% doubling up is indicative of the fact that for one reason or the other people are forced to share houses. In addition in 1951 there were 3.9 million houseless or institutional persons in India and the four States of Southern Zone had 0.9 million out of them. Madras and Kerala had proportionately a larger number of houseless and institutional population.

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\*A census house was defined as a structure or a part of a structure, inhabited or vacant or a dwelling, a shop or shop cum-dwelling or a place of business, workshop, school etc. with a separate entrance.

\*\*A household is a group of persons who commonly live together and take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so.

7.2 In 1961 out of an estimated 78.9 million occupied houses in the country, the four Southern States had 20.4 million. The number of households were estimated to be 83.5 million in India with 21.0 million in the four Southern States. The number of households per 1000 occupied houses was estimated in 1960 as compared to 1047 in the Southern Zone and 1022 in Andhra, 1002 in Kerala, 1116 in Madras and 997 in Mysore. The sampling errors involved in these estimates will have to be kept in mind before any detailed conclusions can be drawn.

7.3 The average number of persons in 1961 per household was 4.9 in Southern Zone is lower than the average of 5.2 observed in India. The highest average of 5.8 was found in Kerala and the lowest 4.6 in Madras. The rural average was lower than the urban in the zone as also in a majority of the States whereas in India the rural average was higher than the urban.

7.4 More than 40% of the households were having 4-6 members per household and excepting Mysore all the other States had larger proportion of large size households as compared with India. The highest of 45% was in Madras. About 30% of households in India had more than 7 members with Kerala having 35%. Madras had the lowest percentage of 19 for households with more than 7 members. Fertility being high and mortality having fallen to quite low levels with joint and extended families still in vogue in the country, this large percentage of rather large households is but to be anticipated.

7.5 In rural areas of Southern Zone 81% of households live in one or two room houses whereas in the rural areas of the country as a whole only 75% of the households live in one or two room houses. In the urban areas the position was different where in the Southern Zone 76% households lived in one or two room houses and in the urban areas of the country 78% of households live in such conditions. This points out on the whole the Indian house is a very small one with little scope for diversification of functional roles of the rooms in houses. Most of the houses had only rooms which were used as bed room, kitchen, drawing room and for other uses and in many cases more than one family shared the same room leaving very little privacy for family life. Only 3-5% of households had more than 5 rooms and as such only such a microscopic minority may be interpreted as having sufficient space.

7.6 The average number of persons per room was 2.6 in the country (both rural and urban) whereas it was 3.1 in the rural 2.6 in urban areas in the Southern Zone. Over crowding is clearly indicated even when nothing is known about the floor space. Generally the floor space of a room could be assumed to be low and insufficient even for one person.

7.7 Both in India and in the Southern Zone, most of the dwellings were used for residential purposes - 79% in Southern

Zone versus 72% in India. In southern Zone 7% of houses were found vacant as against 6% in India. The vacancy rate in urban areas was 7.2% in Southern Zone and India. /in

7.8 In southern Zone 84% of houses used exclusively for dwelling purposes were owned houses whereas in India it was 35%. In urban India, 54% of residential dwellings were rented whereas it was only 47% in Southern Zone.

7.9 Unfortunately data regarding housing amenities, condition of the structure and dates of construction of the houses are not available for the various States but some data for the whole country available from the National Sample Survey indicates that the situation in regard to amenities, condition of structure etc., is abominable and calls for quick remedial actions before it gets worsened. Moreover, some information available on the materials used for house construction from the census indicates that the Indian's house is a poor structure and that his life is precarious especially in regard to his fight for survival against the elements and environment. For example, in India about 70% of houses have walls made up of flimsy materials like leaves, grass, reeds, bamboo, mud or unburnt bricks. In rural areas this percentage is 77 in urban 32. In Southern Zone the situation on the whole is slightly better. With 65% for the zone, 70% for rural and 44% for urban. Regarding roofing materials in India 46% were with grass, reeds, wood, bamboo etc., whereas in rural it was 52% and in urban 21%. In southern Zone the situation was poorer with 60% for the zone as a whole, 67% in rural and 34% in urban areas.

### 8.0 Future prospects:

8.1 With prospects for economic development bright industrialisation and urbanisation are bound to take place. Mortality which has already fallen to low levels is anticipated to fall still further. Fertility may decline but not fast enough, atleast in the near future, to compensate for savings due to mortality reduction.

8.2 With educational improvement, the age at marriage may be anticipated to go up but the duration of married life will be increased due to mortality declines. Aspirations and hopes for formation of new households by the newly married couples may be anticipated to go up and economic improvements may aid the process of demand for housing. Moreover, as people become more and more aware of the importance of living in a good house, the dilapidated and decrepit which are now acceptable may have to be demolished. Repairs and reconditionings may be clamoured for.

8.3 The housing construction in the country which is estimated to be 2 per 1000 population is woefully inadequate as compared with the needed of 10-12 per 1000 population. Massive efforts in housing construction are needed to wipe out the backlog, to reduce over-crowding and doubling up, to demolish or atleast recondition unacceptable housing and provide shelter to the houseless population. The estimated housing shortage in India in the recent years is about 119 lakh units in urban areas and 718 lakh units in rural areas. The increase annually in housing needs is 20 lakh units. But the annual number of construction including those in the private sector is about 3 lakh units. It is estimated that about 34 million families in India are either houseless or living without proper housing accommodation i.e., 3 out of 4 families have either no house or are living in an unacceptable house.

8.4 The Ministry of Works, Housing and Urban Development have started a scheme called the Central Revolving Fund for housing through Government allocations, mobilisation of private savings supported by appropriate international agencies to achieve quick and speedy construction of houses on a mass scale.

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9.1 I am thankful to Dr. S. N. Agarwala, Director of IIPS for asking me to prepare this paper and for facilities provided.

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\* Several techniques and methods of projecting housing need and demand based on demographic and socio-economic and allied data are available. For details the reader may refer to "Housing Planning" by Ramachandran.(3)

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Migration and Urbanisation  
in  
Southern Region of India

by

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Summary

The paper attempts to study two components of internal migration, namely, net rural-urban movement and net urban-urban displacement of population, which contribute to the urban growth and also the characteristics of the urban migrants to cities with reference to the States of the Southern Region.

The study has indicated that the process of urbanisation is gaining momentum and the States in the Region seem to be well set to enter a phase of rapid urban growth as a result of rural-urban movement with the prevailing traditions and culture. More and more educated young persons are likely to flow to urban settlement for absorption in the urban economy.

The rapid process of urbanisation will generate inter alia a growing demand for adequate shelter and development of other complementary infra-structure. Migration will set in demand for diversified form of housing and needs special considerations in view of peculiar situation in which the migrants are placed without any root in their new settlements. The study has indicated that the level of house-building activity obtained earlier is highly on the lower side in comparison with the need and the backlog of housing shortage is accumulating. To arrest the deterioration in housing situation a concerted effort by pumping in more resources in house-building activity is called for. In view of the constraints on physical and financial resources, there is a need of evaluation of proper housing requirements for various socio-economic groups and need for development of information system to cater to the requirements of formulation of housing programmes.)

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\* Views expressed in this paper are those of the author and not of the Organisation to which he belongs.



## 1.0 Introduction

1.1 In the process of urbanisation migration is an important constituent. It is the resultant flow of population from rural to urban areas and vice versa together with the net effect of international movement of population and natural increase, which determine urban growth in a country. In a State or a town, in addition, net urban to urban influx of people also contributes to its urban growth during a period.

1.2 In the present paper two components of migration, namely net rural-urban movement and net urban-urban displacement for the States of the Southern Region of India and also the characteristics of migrants to cities situated in this region have been studied. The States of Andhra Pradesh, Kerala, Mysore, Tamil Nadu and the Union Territory of Pondicherry constitute the Southern Region of the country.

1.3 In the present study the measurement of migration has been done on the basis of the data of 1961 Population Census, which provide information on place of birth and place of enumeration and also distinguishes rural and urban settlements. Measurement of movement of population with reference to place of birth and place of enumeration involves certain constraints in proper evaluation of the flow of population as some of the movements will either be disguised or accidental. The figure of net rural-urban migration would include an unknown number of urban to urban migrants. The place of birth as well as the place of enumeration may be accidental. This will be particularly so in respect of place of birth because of customary practice of wives to go to their parents' home for their first confinement. Even though some of the factors cancel out, the full details cannot be known.

## 2.0 Growth of urban centres and Population in the States of the Southern Region during 1951-61.

2.1 In 1951 the number of towns in the Southern Region were 973. Out of these 225 towns were declassified as rural in 1961 on account of the application of the criteria (1) of urban areas in the 1961 census and 10 towns were

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(1) In 1961 Population Census, to qualify for an urban area, a place should satisfy the following empirical tests (a) a density of not less than 1,000 persons per square mile; (b) a population of at least 5,000; (c) three fourth of the working population should be working outside agriculture and (d) the place should have, according to the Superintendent of the State, a few pronounced urban characteristics and amenities. In 1951 Population Census, tests prescribed for distinguishing towns from villages were not applied with meticulous uniformity. In the case of Princely States, the definition of town was applied a little in discriminately. Census of India, 1961, Vol. I, Part II-A(i).

Table (1) No of towns in 1951, no of towns of 1951 declassified as rural in 1961, no of towns of 1951 merged in other towns and no of towns in 1961 by States of the Southern Region

State	no of towns in 1951	no of towns of 1951 declassified as rural in 1961	no. of towns of 1951 merged in other towns.	no of towns in 1951 adjusted	no of towns in 1961
1. Andhra Pradesh	293	74	5	214	223
2. Kerala	94	36	1	57	92
3. Mysore	289	85	3	201	231
4. Tamil Nadu	297	30	1	266	339
5. Pondicherry ..	..	..	..	..	5
6. Southern Region	973	225	10	738	890

Source: Census of India 1961, Vol. I, Part II-A(i)- General Population Tables.

merged with the adjoining urban formations. After adjustment of delimited areas, the number of towns in 1951 came to 738. This rose to 890 in 1961 giving an increase of 20.6% in the intercensal period i.e. 1951-61. Among the states of the Southern Region the increase in number of towns varied between 5 in Pondicherry to 73 in Tamil Nadu.

2.2 In the Southern Region the urban population increased from 18587.6 thousands (adjusted) in 1951 to 23174.6 thousands in 1961 giving an increase of 24.7% during the decade 1951-61. The per cent increase in urban population in the Southern Region was lower than the increase exhibited at all India level. Among the States of the Southern Region, Kerala exhibited the highest urban growth rate of 54.0% during this decade. The States of Andhra Pradesh and Mysore grew in size in urban settlements at almost the same rate. These rates for Andhra Pradesh and Mysore were 24.7% and 24.2% respectively. The lowest growth rate was experienced

Table (2): Urban population and increase in urban population during 1951-61 by States of Southern Region.

State	Urban population (000)		Per cent (2) increase during 1951-61
	1951 (1)	1961	
1.	2.	3.	4.
1. Andhra Pradesh.	5032.2	6274.5	24.7
2. Kerala	1658.7	2554.1	54.0
3. Mysore	4240.6	5266.5	24.2
4. Tamil Nadu	7656.1	8990.5	17.4
5. Pondicherry ..		89.0	
6. Southern Zone	18587.6	23174.6	24.7
7. All India	60412.8	78936.6	30.7

Source: Census of India 1961, Vol. II, Part II-A(1)-General Population Tables.

Notes: (1) Urban population for 1951 has been adjusted for delimited areas in 1961 and places which were not treated as towns in 1951 but treated as such in 1961.

(2) Per cent of urban population in col.4 has been calculated with adjusted 1951 urban population as base.

during 1951-61 by the State of Tamil Nadu (17.4%)

3.0 Internal urban migration during 1951-61 in the Southern Region.

3.1 The net rural-urban migration rate for the decade 1951-61 in respect of the Southern Region came to 12.2% which was lower than the rate experienced at all-India level (i.e. 14.8%). Among the States of the Southern Region, the highest resultant rural-urban movement occurred for Andhra Pradesh and the lowest for Kerala. The net rural-urban migration rate for Andhra Pradesh, Mysore, Tamil Nadu and Kerala were revealed at 17.4%, 12.1%, 10.5% and 5.5% respectively. In the case of net urban migration (resultant of net rural-urban migration and net urban-urban migration) the order followed by these States remained the same.

Table 3: Net rural-urban migration, net urban migration and migration rate during 1951-61 by States in Southern Zone.

State	migration rate (%) during 1951-61			
	Net rural-urban migration during 1951-61 (000)	net urban migration during 1951-61 (000)	net rural-urban	net urban
1	2	3	4	5
1. Andhra Pradesh	873.8	838.7	17.4	16.7
2. Kerala	91.2	(-) 41.2	5.5	(-) 2.5
3. Mysore	514.1	523.6	12.1	12.3
4. Tamil Nadu	806.3	735.0	10.5	9.6
5. Pondicherry	(-) 3.8	(-) 8.1	..	..
6. Southern Region	2281.6	2042.0	12.2	11.0
7. All India	8616.2	-	14.8	-

Source: Census of India, Vol. I, Part II-C(iii)-Migration Tables

Notes: (1) Net urban migration has been obtained by adding net urban-urban migration to net rural-urban migration.

(2) For migration rates (cols. 4 and 5) 1951 adjusted urban population has been taken as base.

Also from table (3) the following conclusions emerge

- (i) net rural-urban migration in each State of the Region was quite substantial;
- (ii) net urban-urban migration in each State of the region except Mysore was outward. The highest net urban-urban migration rate was revealed at 8.0% in respect of Kerala. For other States it varied between 0.4% to 0.7% during 1951-61. In the case of Mysore state the inflow of migrants from urban centres of other states was more than outflow, although the rate is very low.

3.2 Table (2) when seen in conjunction with table (1) is quite revealing. In Kerala during 1951-61, out migration to urban centres in other states was more than rural-urban migration. In the case of other states of the Region, net

urban-migration did explain a greater proportion of the urban growth than the natural increase.

4.0 Net Rural-urban Migration - its characteristics.

Table (4) : Percentage of net rural-urban migration by period of stay at the place of enumeration and by States of the Southern Region.

State	Period of stay (years) at the place of enumeration						Total
	Less than 1	1-5	6-10	11-15	16 & above	Period at stated	
1	2	3	4	5	6	7	8
1. Andhra Pradesh	14.2	31.8	18.2	12.2	22.9	0.8	100
2. Kerala	14.6	23.3	11.3	9.9	39.3	1.5	100
3. Mysore	11.9	31.5	17.2	12.0	25.5	1.8	100
4. Tamil Nadu	8.6	28.2	19.7	13.5	28.1	1.9	100
5. Pondicherry	(-)21.9	(-)71.9	(-)25.0	0.0	28.1	(-)9.4	(-) 100

4.1 Except for the Union Territory of Pondicherry where there was less in-flow of people in urban centres than outflow in other States of the Region the in-migration to urban settlements was more than out-migration to rural areas in the development decade 1951-61, which embraces two quinquennial development plans. During this decade of planned strategy the process of migration seemed to have gained momentum. The pace of movement of population had further accelerated in the second half of the decade 1951-61 in comparison with the first half. The economic prosperity accompanying development planning would have accentuated the movement of population to urban centres for participating in economic gains accruing as a result of the development process. During the period 1951-61 the net rural-urban migration varied between 49.2% in case of Kerala to 64.2% for Andhra Pradesh. During 1956-60 the proportion varied between 36.8% for Tamil Nadu to 46.0% for Andhra Pradesh. In the case of the Union Territory of Pondicherry more probing would be necessary for the reversed trend of movement.

4.2 In the state of Mysore and the Union Territory of Pondicherry net flow of population from rural areas of other

States was quite substantial, whereas in the states of Tamil Nadu and Andhra Pradesh this displacement of population was not so marked. In the latter two states 92% or more of rural-urban migration was confined within the respective state boundaries. Within district displacement on account of migration in each of the State was more than between districts indicating the preponderance of short-distance migration. In the case of Pondicherry the flow of more people from urban to rural areas than the intake took place mostly within district and this rare event could perhaps be explained by the accidental nature of place of birth and place of enumeration.

Table (5) : Net rural urban migration (i) within district, (ii) between districts and (iii) from other States in the states of the Southern Region.

State	net rural-urban migration			
	within State		From other States	Total
	within district	between districts		
1	2	3	4	5
1. Andhra Pradesh	56.1	37.2	6.7	100
2. Kerala	74.6	28.3	(-)2.9	100
3. Mysore	49.4	23.8	26.8	100
4. Tamil Nadu	58.0	34.0	8.0	100
5. Pondicherry	(-)157.6	(-) 6.1	63.6	100

5.0 Net urban-urban migration in the states of Southern Region.

5.1 In all the States the movement of population between urban settlements was quite substantial during 1951-61. The pace of movement had been accelerated in the course of Second Plan period (1956-61). In the case of Kerala and Pondicherry the flow of population is outwards and this trend in respect of Kerala was set in 1946-1951. In view of the high literacy rate in Kerala and constraints imposed by resources, more and more people are moving out to seek fortune in urban settlement located outside the State precinct.

6.0 Characteristics of Migrants in the cities of the Southern Region.

6.1 Migrants were not moving citywards alone but were attracted to smaller urban settlements in each State. The proportion of migrants in cities to urban centres varied between 30.8% to 38.3%. The proportion of migrants in cities with population over 1 million was 11.2% for the city falling in Andhra Pradesh, 22.4% for that falling in Mysore State and 19.7% in respect of that which fell in Tamil Nadu. In Andhra Pradesh, Mysore and Tamil Nadu there were three such cities namely, Hyderabad, Bangalore and Madras, each falling in one State.

Table (8): Migrants in cities and urban areas in states of the Southern Region.

State	Migrants (000)			Per cent of migrants to urban areas in		Per cent of urban population to total population in	
	Cities with population over 1 million	Cities	Urban areas	cities with population	cities	cities with population	Cities
1.	2.	3.	4.	5.	6.	7.	8.
1. Andhra Pradesh	287.3	935.9	2576.0	11.2	36.3	17.8	40.6.
2. Kerala	-	206.5	649.8	-	30.8	-	27.0
3. Mysore	460.5	760.0	2055.4	22.4	37.0	20.8	36.8
4. Tamil Nadu	642.8	1251.0	3267.2	19.7	38.3	19.2	37.8

- Notes : (1) In 1961 Population Census a city was defined as one, whose population was 1,00,000 or more.  
 (2) In the Union Territory of Pondicherry there was no town to qualify as a city.  
 (3) In Andhra Pradesh, Mysore and Tamil Nadu, cities with population over 1 million were Hyderabad, Bangalore and Madras. In Kerala there was no city in 1961 to qualify for this category.

\*(over one million )

6.2 The young migrants in the age group 0-14 years varied between 15.6% to 21.0% in the three bigger urban centres. In other cities the variation between states was from 16.9% to 23.4%. In the older age group 60 years and above, the proportion varied from 4.9% to 5.9% in the bigger cities and between 5.5% to 7.0% in other cities. A big chunk of migrants in cities belonged to the age group 15-34 years. In this age group there did not seem to be much variation among bigger cities and among other cities situated in various states of the Region. In the age group 35-59 years, the proportion varied between 25.8% to 30.1% in bigger cities and between 25.6% to 31.0% in other cities located in various States of the Region.

Table (9) : Percentage distribution of migrants in cities of the Southern Region by age.

State	City	Percentage of migrants by age				Total
		0-14	15-34	35-59	60 & above	
1	2	3	4	5	6	7
1. Andhra Pradesh	Hyderabad	21.0	48.3	25.8	4.9	100
	Other cities	23.4	45.4	25.6	5.5	100
2. Kerala	cities	16.9	43.7	32.4	7.0	100
3. Mysore	Bangalore	18.2	48.2	27.7	5.9	100
	Other cities	21.2	44.7	27.6	6.6	100
4. Tamil Nadu	Madras	15.6	48.3	30.1	5.9	100
	Other cities	17.9	45.4	31.0	5.6	100

6.3 From the table below, it can be inferred that illiterates do not stand in the way of migration. The low level of educational attainment even did not seem to deter the migrants from moving out. This may be primarily on the consideration of the availability of more avenues of economic betterment available in the cities. In Hyderabad, Bangalore and Madras cities the proportion of illiterate and literate (without educational attainment) varied between 47.2% to 68.0% for males and between 68.4% to 85.2% for females. The lowest proportions both for males and females were for Madras and the highest for Bangalore. In other cities this proportion varied between 53.4% to 57.9% for males and 70.4% to 77.7% for females. Lowest proportion of illiteracy occurred in the cities of



Kerala and highest in the cities of Tamil Nadu (excluding Madras) for males. Among female migrants the illiteracy was lowest in the cities of Kerala and highest for those in Andhra Pradesh (excluding Hyderabad). Again sex differential for educational attainment of migrants was also perceptible.

Table (3) : Percentage of migrants to cities in the Southern Region by sex and educational level.

State	Sex	illite- rate	literate (without educa- tional level)	primary or jun- ior basic	matricu- late or hi- gher secun- dary	Other	total
1	2	3	4	5	6	7	8
<b>1. Andhra Pradesh</b>							
(a) Hyderabad	(i) male	35.2	21.9	18.5	17.5	7.0	100
	(ii) female	59.6	20.5	13.3	5.4	1.3	100
(b) other cities	(i) male	35.2	21.3	24.8	13.6	5.1	100
	(ii) female	57.8	19.9	19.0	2.6	0.7	100
<b>2. Kerala</b>							
	(i) male	21.1	32.3	19.2	18.5	8.9	100
	(ii) female	40.0	30.4	17.2	9.9	2.5	100
<b>3. Mysore</b>							
(a) Bangalore	(i) male	31.8	36.2	8.7	17.1	6.2	100
	(ii) female	57.0	28.2	8.0	5.8	1.0	100
(b) other cities	(i) male	29.7	24.2	25.0	16.9	4.2	100
	(ii) female	56.7	19.1	13.6	5.0	0.5	100
<b>4. Tamil Nadu</b>							
(a) Madras	(i) male	22.8	24.4	25.2	20.8	6.8	100
	(ii) female	47.5	20.9	23.1	7.4	1.2	100
(b) other cities	(i) male	25.7	32.2	23.8	14.6	3.6	100
	(ii) female	54.8	21.9	18.1	4.6	0.6	100

6.4 / cities

On the analysis of the activity status of migrants in it is observed that the female migration was primarily sequential as only a small proportion was gainfully employed in comparison to male migration. In the bigger cities the proportion of non-workers among women varied from 83.2% to 91.5% whereas this proportion varied among men between 29.4% to 35.2%. Leaving aside these bigger cities, the proportion varied between 82.8% to 85.9% among female migrants and between 31.3% to 33.3% among male migrants.

Table (11) : Percentage of migrants in cities of the Southern zone by sex and activity status.

State	Sex	Activity status of migrants		
		Workers	Non-workers	Total
1	2	3	4	5
<b>1. Andhra Pradesh</b>				
(a) Hyderabad	male	64.8	35.2	100
	female	16.8	83.2	100
(b) other cities	male	63.5	36.5	100
	female	17.2	82.8	100
<b>2. Kerala</b>				
	male	65.6	34.4	100
	female	16.9	83.1	100
<b>3. Mysore</b>				
(a) Bangalore	male	70.6	29.4	100
	female	13.4	86.6	100
(b) other cities	male	61.7	38.3	100
	female	14.2	85.8	100
<b>4. Tamil Nadu</b>				
(a) Madras	male	70.4	29.6	100
	female	8.5	91.5	100
(b) other cities	male	68.7	31.3	100
	female	14.1	85.9	100

6.5 From the table below giving percentage of migrants in various occupation groups in cities of the Southern Region, expected, bigger cities absorbed more migrants in higher income occupation group than other cities in each state of Region. Again more than half of the gainfully employed migrants were absorbed in low income occupations group (Codes 4-9, cultivations and agricultural labourers). In the second category (Occupation Codes 2-3) the proportion varied between 22.0% to 31.7% in bigger cities and between 20.9% to 25.5% in other cities. In the third category of middle and higher income occupations group (occupation codes 0-1) the proportion varied between 13.4% to 15.5% in bigger cities and between 11.0% to 17.5% in other cities of the region. The high proportion of migrants in low income occupations group could be on account of low level of educational attainment suited for absorbing migrants in higher income occupations group.

Table (12) : Percentage of migrants in cities of the Southern zone by occupation groups.

State	Occupation of workers (code)			
	0-1	2-3	Others	Total
	2	3	4	5
1. Andhra Pradesh		22.3	77.7	100
(a) Hyderabad	15.8	27.3	56.9	100
(b) Other cities	11.1	23.1	65.8	100
2. Kerala	17.5	23.2	59.2	100
3. Mysore				
(a) Bangalore	15.8	22.0	62.1	100
(b) other cities	11.4	20.9	67.7	100
4. Tamil Nadu				
(a) Madras	13.4	31.9	54.8	100
(b) Other cities	11.0	25.5	63.5	100

Note : 1. Occupation Codes: 0- Professional technical and related workers; 1-administrative, executive and managerial workers; 2-clerical and related workers; 3-Salesworkers; 4- farmers, hunters, loggers and related workers; 5- mines, quarrymen and related workers; 6- workers in transport and communication; 7-8 craftsmen, production process workers and labour not elsewhere classifiable; 9-Services, sport and recreational workers ; X- workers not classifiable by occupation.

2. Others include occupation Codes 3-9, X and cultivators and agricultural labourers.

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## 7.0 Urbanisation, Migration and Housing.

7.1 The process of urbanisation is problems ridden. In addition to food, provision of adequate shelter to the swelling urban settlements and development of complementary infrastructure assumes importance. As migration contributes to urban growth, the needs of the migrants acquire a special consideration in view of a large proportion of them being highly sensitive to evil social influence as well as to health hazards. Migrants set in demands for diversified form of housing. The demand will include housing for families, for adult male migrants with their families in rural settlements for adult female economically active migrants, for students and for casual visitors. For adult male migrants with their roots in village barrack type accommodation with minimum standard of sanitation and environmental hygiene will probably meet their requirements. For adult female economically active migrants and for students hostel type accommodation will be suited most.

7.2 To determine the demand of housing on account of the increase in population during a period need data about household formation, its composition, the pattern of movement of the migrants and on a number of related socio-economic variables. However, on account of the paucity of data the housing need for the additional population during 1951-61 has been determined on the following considerations;

(i) The household size (2) for Andhra Pradesh, Kerala, Mysore and Tamil Nadu has been taken at 5.00, 6.25, 5.41 and 4.76 respectively as revealed by 1961 Population Census. As the household size for migrants will be generally low, the present assumption will underestimate the housing requirements of migrants; and

(ii) each household will need a separate house. This assumption will result in overestimation of housing needs in developing countries on account of socio-economic constraints, which do not permit every household to have a separate housing unit.

(2) Household size in the 1961 Population Census was determined on the basis of number of persons in Census household on day of visit. A Census household was defined as a group of persons, who commonly live together and take their meals from a common kitchen unless the exigencies of work prevented them from doing so.

Table(13) : No. of dwellings required during 1951-61 per annum per 1000 of population by State of the Southern Region.

State	No. of dwellings required during 1951-61 per annum per 1000 of population	
	Urban areas	Total population
1. Andhra Pradesh	4.9	3.3
2. Kerala	8.6	(-) 4.0
3. Mysore	4.5	2.3
4. Tamil Nadu	3.7	0.8

The need for housing on account of increase in urban population varied from 3.7 dwellings per 1000 of population per annum in case of Tamil Nadu to 8.6 dwellings per 1000 of population per annum for Kerala. The need on account of urban migration had been in Andhra Pradesh, Mysore and Tamil Nadu and varied between 0.8 to 3.3 dwellings per 1000 of population per annum. House building activity, if assumed to be at the same level during 1951-61 as revealed by National Sample Survey for 1967-68 at 0.70, 1.07, 1.60 and 1.36 pucca houses completed per annum per 1000 of population for Andhra Pradesh, Kerala, Mysore and Tamil Nadu, had not been able to satisfy the housing need in urban agglomerations of the region. The gap between housing need and supply will become more wide if accumulated backlog of housing shortage is also taken into account.

(3) Data on number of pucca houses completed during last 365 days were collected in the 22nd round (July 1967-June 1968) of National Sample Survey. The definition adopted for a house was a structure or a part of a structure with a separate entrance and intended for habitation and was not at the time of the survey used wholly for other purposes. If the wall and roof atleast were made of either even-burnt bricks, stone, cement concrete and timber, the house was considered as pucca. Tiles, galvanised iron and asbestos cement sheets used in the construction of the roof were regarded as pucca materials. A completed house was considered as one which was ready for occupation during the reference period.

7.3 The need for housing is likely to rise on account of rapid urbanisation with villagers becoming progressively more oriented towards the new urbanised economy. This calls for a concerted efforts to arrest the deterioration of housing situation by increasing the level of house-building activity pumping in more resources. However, in view of the physical and financial constraints, there is a need for evaluation of proper housing requirements for various socio-economic groups and need for development of statistics required for formulation of housing programmes.

## 8.0 Summary of Conclusions

8.1 To summarise the following conclusions have emerged from the study

- (i) The number of towns in 1951-61 increased by 20.6% in the Southern Region;
- (ii) Except for the state of Kerala, the urban growth rate during the decade 1951-61 was much lower than the all India growth rate. Kerala exhibited a growth rate of 54%;
- (iii) Net rural-urban migration was quite substantial in the States. Net rural-urban migration rate was low in Kerala (5.5%) and highest in Andhra Pradesh (17. The Union Territory of Pondicherry exhibited an over of urban to rural areas, which seems to be a rare and needs further proving;
- (iv) In each of the states except Mysore there was an overflow of population from urban settlements of the State to other urban centres located in other states. During 1951-61, the highest net urban-urban migration rate revealed at 8.0% in respect of Kerala. In other States of the region the rate was less than 1%;
- (v) In Kerala state the movement of population from urban areas to urban centres of other States was more than net rural-urban migration. In the case of other States of the region net urban migration did explain a greater proportion of the urban growth than the natural increase;
- (vi) Rural to urban as well as urban to urban migration in each State was more in the development decade 1951-61 than in earlier periods. The pace of displacement was more in the second half of the period as compared to the first half;
- (vii) There was preponderance of short distance rural to urban migration (except in the case of Kerala where long distance and urban to urban migration

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appears that people would like to move out of the state rather than to move across district boundaries;

- (viii) Migrants were not moving citywards alone but were attracted to smaller urban settlements in each state of the Region;
- (ix) In the cities, a large proportion of the migrants were young falling in the age group 15-34. Again there did seem to be much variation in the proportion of migrants in this age group among cities with population over 1 million and among other cities situated in various states of the Region;
- (x) Illiteracy did not stand in the way of migration to cities;
- (xi) About one-third of the male migrants to cities were non-workers. This proportion was very high in the case of females. The proportion for female migrants varied from 83% to 92% in cities with population over 1 million and between 83 to 86% in other cities of the Region;
- (xii) A large proportion of the migrants in the cities belonged to low income or low middle income occupations. In the middle and high income occupations the proportion was rather low. Also cities with population over 1 million absorbed more in higher income occupations than other cities in each state of the Region;
- (xiii) States of the region seem to be well set to enter a phase of rapid urbanisation as a result of rural-urban movement with prevailing family traditions and culture. During the coming decades, a large number of young aspirants of decent living, after attaining minimum educational standards in the expanding educational system will be moving to urban settlements for absorption in the urban economy;
- (xiv) House-building activity has not been able to keep pace with the needs arising out of urbanisation and migration and
- (xv) The gap between housing needs and supply is widening with the passage of time. This calls for a concerted efforts to arrest the further deterioration of the housing situation by intensifying house-building activity. In view of the physical and financial constraint on resources, there is a need for evaluation of proper housing requirements for various social-economic groups and need for development of information system for formulation of housing programmes.

# RURAL HOUSING PROBLEMS IN ANDHRA PRADESH

By

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## I N T R O D U C T I O N.

More than eighty percent of our country's population is ill housed and we need 84 millions of houses to provide proper living conditions for the citizens of our country. According to Shri K.K. Shah, Union Minister for Housing & Urban Development to meet the shortage of houses about Rupees 33000 Crores are required. This would mean that the finances required for tackling only the housing problems of our country, we will have to invest an amount of equivalent to one and half times the total outlay of our IVth Five Year Plan. This is the real magnitude of this problem. With the increase in population this problem is getting more and more aggravated as the increase in housing stock is not keeping pace with the increase in population. Our President of India in his recent speech at Poona has stated that the Government during 2nd Five Year Plan have provided 1.8 percent of the total outlay for housing but this percentage has come down to 1.6 during the Third Five Year Plan. If this attitude is to continue it may be impossible to tackle the housing problems of our country. Even if it is impossible to improve the existing problems, it should be possible atleast to check the deterioration of the existing stock of houses. Day-by-day the man-land ratio of our country is coming down and the developments in our country is not keeping pace with the rapid growth of our population. These important aspects should be kept in view while tackling any social or economic problem including the housing problems of the citizens of our country.

### Housing Conditions in Rural Areas of Andhra Pradesh:-

According to 1961 Census the population of Andhra Pradesh was 36 millions. Out of this 82.56 percent of the population live in rural areas. The total number of workers in Rural Areas is 16.4 millions and nearly 13 million of them (79 percent of total workers) depend upon primary occupation i.e., as Cultivator or as Agricultural Labour and in mining, quarrying, live stock, Forestry, Fisheries etc. Even to this day the economy of the State of Andhra Pradesh mainly depend upon the agricultural produces of its rural areas. Nearly 80 percent of the houses in the rural areas of the State can be safely classified as substandard.

Nearly 30 million people in about 6.0 million house are living in rural areas of the State of Andhra Pradesh and out of these houses 4.5 million houses are made of Thatched Roof with mud walls or walls made of thatch. From the above, it is clear that a major stock of houses in the rural area are substandard and they require replacement. This stock of existing houses are to be either improved or to be replaced with necessary basic amenities required for hygenic and civilised existence. Since, the inception of the five year plans the additions to the housing stock in the Rural areas due to the efforts of the State Government may not exceed about 20000 houses



This additional number of houses did not touch even fringe of the problem. Upto-date data with regard to Housing conditions in Rural Areas are not readily available and we had to mainly depend upon the data which is available in the 1961 census. Perhaps, more light with regard to Housing conditions in both rural and urban areas will be thrown after the completion of the 1971 census.

A lot has to be done to solve the problems and provide at least the basic amenities required for human existence in the rural areas.

### Review of the V.H.P. Schemes in Andhra Pradesh

The Central Government while realising the poor housing conditions in the rural areas of the country have sponsored the V.H.P. Scheme in the year 1958-59. Andhra Pradesh is also one of the States which has availed the benefits of this scheme. From the year 1958-59 onwards so far the State Government have released an amount of Rs.90.00 lakhs for execution of the schemes in the selected villages. From the inception of the scheme the total number of villages selected was 450 and they have been equitably distributed in about 80 Panchayat Samithis in 21 Districts of the State. For all the selected villages M.Ps. have been drawn by the Director of Town Planning after conducting required physical and socio-economic surveys. But the Scheme is now being implemented in only about 270 villages. Even though an amount of Rs.90.00 lakhs has been released to the implementing agencies ( Panchayat Samithis ) so far only about 70.00 lakhs have been disbursed to the beneficiaries. Nearly 6,300 individuals have availed the loans under the scheme and so far 4,000 houses have been completed. The rest are in various stages of construction. During the year 1963-64 this scheme has been revised. According to the revised scheme 50 percent of the total outlay should be used for distributing loans for the construction of new houses or for remodeling and expanding the existing houses and remaining 50 percent should be utilised as grants for the following purposes.

1. 2/3rd of the grant for acquisition and development and allotment of house sites to the landless agricultural workers.
2. 1/3rd of the grant for construction of streets and drains in the selected villages.

Under the grant scheme so far the State Government have released 5.56 lakhs of rupees to the Panchayat Samithis to be spent in the selected villages. A beginning has been made in 17 villages and about 136 house sites only so far have been developed and allotted to the beneficiaries in about five villages. From this, it is evident that not even 10 percent of the amount so far released have been spent by the Samithies. The meagre amount of Rs.5.6 lakhs distributed so far as grant over a period of 5 to 6 years is not sufficient to touch even the fringes of the enormous problems of providing house sites to the families of the landless agricultural workers in the State. From the above facts it can be seen that the scheme which was begun in a modest scale could not produce the expected results, leave alone the question of throwing sufficient impact in solving the housing problem.

in rural areas. The reasons are many. The reasons for such limited performance in Andhra Pradesh may not be in the same for all the other States of our country. However, the following are the main reasons for limited performance of the scheme in the State of Andhra Pradesh.

2. From the beginning the central and State Governments are aware that by introducing the scheme it won't be possible to completely solve the housing problem in the Rural Areas of the Country. But the villages so selected under this scheme were expected to serve as a model for others to emulate. Government have laid down certain guide lines which should be followed by the Panchayat Samithies in selecting the villages for assistance under the scheme. But in many cases it has been observed that the villages have been selected on considerations other than merit.

2. Having selected the villages, and even after getting the Master Plans sanctioned for the selected villages, there has been insufficient efforts on the part of the implementing Agencies to enlighten the beneficiaries with regard to the advantages of the scheme.

3. The loans under this scheme are being provided on a long term basis. But before availing the loan for the construction of improvement of a house a beneficiary should provide sufficient security. It would mean that one cannot avail this loan unless he owns adequate property which should be given as security. The insistence of security ultimately resulted in distribution of loans to somewhat affluent sections of the Rural Community. The persons who are in real need of financial assistance for construction of improvement of a house could not avail of the benefits of the scheme.

4. Most of the affluent sections of the rural community prefer to invest their savings for acquiring more agricultural lands rather than investing them for constructing or improving their residential buildings. In the areas where there is permanent source of irrigation through canals etc., the value of land is high and expansion of any human settlement can be achieved only by encroaching upon the rich agricultural lands which are almost adjacent to the existing buildings. The cost of reclaiming these agricultural lands for making them suitable for building purposes is costly, as it involves raising the level of the land by about 2 to 3 feet from the existing levels. In these areas due to the scarcity of developed land suitable for building purposes, adequate response to the scheme is lacking.

5. The population of the Landless Agricultural Workers in the rural areas are generally much more than the population owning lands and working as cultivators. Normally, this population of landless Agricultural Workers live in substandard huts erected in the lands of their employers. Their existence depends upon the good-will which exists between them and their Masters. This section of population is the one which is most unfortunate among the population in rural areas. Most of the Agricultural Workers have seasonal employment (when there are agricultural operations) and during the rest of the periods they will have to live on their savings only. Even during the

Agricultural seasons their earnings are so meagre, they do not have enough to save. Therefore many of them temporarily migrate to the nearby urban areas to work as construction or casual workers, or they seek employment in the Agro-based Industries. This section of population which do not have continuous employment will be unable to avail any loans even if provided with all benefits. But their housing needs, are pressing and their existing living conditions are deplorable. There is urgent need to tackle the housing conditions of this population by providing necessary grants which should be not less than 50% of the total cost, of development. Further in tackling this problem we should not aim at ideal standards. A begining should be made with a scheme for providing the basic amenities with minimum accommodation required for healthy human existence. I consider that the housing problem in the rural areas of the State should receive the same importance assigned for the housing problems in the urban areas.

During the recent Housing Ministers conference held at Jaipur, decisions have been taken that under the Village Housing Project Schemes emphasis shall be given for tackling the housing needs of the section of the rural population consisting of the landless agricultural workers. It was the opinion of all the Housing Ministers of the State Governments and also the Union Ministry for Housing and urban Development that the developed house plots shall be provided free of cost for all the landless agricultural workers. They have recommended that necessary financial assistance must be provided to them by way of loans and grants for the construction of houses. They stressed that the houses shall be constructed on self-help basis. It was also indicated that the Central Government will provide to the State Governments financial assistance by way of loans and grants to the extent of 75 percent of the total cost of the scheme provided, the State Governments provide the remaining 25 percent of the cost of the scheme as matching grant which may include the cost of acquisition and development land for providing house sites and other infrastructure facilities.

The State Governments have been asked in the first instance to evaluate the magnitude of the problems and then workout schemes with due regard of their financial conditions. It was generally agreed that due to the limited finances available both with central and State Governments during the IVth Plan, this scheme shall be undertaken on a intensive scale in few districts in each State where problems are acute and need immediate attention. By now most of the State Governments should have submitted their schemes for the consideration of Government of India.

According to an eminent town planner of America actually real shortage of space in urban areas doesnot exist. Required space can be created by going high up into the sky and the existing technological advancements makes this possible. But real shortage of space exists in rural areas. A farmer has to depend upon the surface of land which shall be exposed to sunlight. Especially for India, where there is rapid growth of population, the man-land ratio is rapidly coming down. Therefore the land can provide livelihood only for a limited size of its population.

Beyond a certain limit people are bound to migrate to urban areas or to the areas newly opened out for intensive cultivation in the command areas of the river-valley projects seeking employment. While taking this fact also into account a plan for improvement of housing conditions in the rural areas will have to be worked out by each State Government. The landless agricultural workers who have no vested interests in the rural areas are also tempted to migrate to the urban area where they expect better life with full employment. It is also necessary to ~~prevent~~ prevent trends of this kind, and see that the rural economy of our country does not suffer. While making best effort to improve the conditions of housing in the rural areas, steps shall be taken to ensure full employment/ every worker in the rural areas. It would mean that it will be necessary to accelerate the development and dispersal of industries. It will be highly wasteful if all these problems are tackled in isolation without necessary co-ordination. The co-ordinated developments for tackling rural and urban problems will be possible only if the entire country is covered by series of Regional Plans for intergrated economic and social development of rural and urban areas. These regional plans can evaluate the resources which have been exploited and which are yet to be exploited can estimate the degree of backwardness and various other matters which need consideration for making life of all the citizens more healthy and comfortable. It will be always safer to tackle the rural housing problems as part of these Regional Plans. Before making a beginning for tackling the housing problem on an intensive scale it shall be possible to cover the entire country with regional plans which should lay down in clear terms, the line of developments for raising the standards of life of the entire population of our country.

With these suggestions in view the scheme in each state may be prepared on the following lines:

1. SCOPE OF THE SCHEME: - Before undertaking the execution of the scheme it is necessary to have a total picture of the problem relating to the housing conditions of the landless agricultural labourers in each District of the State and the extent to which it will be possible to tackle the problem during each of the five year plans. It is also necessary to solve the problem to a satisfactory level.
2. Selection of sites: The villages to be selected under this scheme shall be based on the degree of backwardness of the areas and the prevailing housing problems of the landless agricultural labour. To facilitate intensive supervision and guidance, the villages may be selected in groups in one or two taluks of each Districts during each year of the plan. To begin with the villages where adequate and useful lands belonging to Government available should be given preference. ~~These Government lands~~ as far as possible should be within or adjacent to the builtup areas of the villages. The land requirement for the settlement may be calculated at the rate of 25 families per gross hectre of land. For securing economy in development, the scheme may be implemented in the shape of colonies consisting of not less than 50 houses and not exceeding 100 houses. The land covered by the existing colonies landless agricultural workers can also be considered for construction and rehabilitation. The area of each building may not exceed 200 square metres.

3. Amenities in the site:- The land selected, as far as possible shall have soil suitable for building purposes and shall be close to the drinking water sources. The layouts for the lands shall got prepared by fully qualified town planners. The layouts will provide suitable sites for community centres, wells, schools shopping centres etc., depending upon the requirements of each colony. The cost of development of house sites will include the cost of the formation of roads, provision of street lights where possible and the provision of water supply facilities, and other amenities which are essential.

4. Construction of houses: In the villages usually the thached huts are built with the self-help of the owner and his family. But while constructing the masonry structures the owners while providing their self help to the extent possible engage necessary skilled labour. It usually involves the employment of stone masons brick layers and carpenters. The houses to be constructed under this scheme shall be on the self help basis only. The beneficiaries shall provide free unskilled labour atleast and skilled labour may be locally obtained. The houses shall be of standard design to facilitate the use of standardised building components like doors and windows, roofing material and roof scantlings. As far as possible locally available building materials shall be used.

The pattern of the plan of the houses may broadly confirm to the types used locally with necessary improvements. Each house shall have the basic accommodation required for each family i.e., a living room 10 square metres a small verandah kitchen bath and W.C. The design of the house shall be such that each family depending upon its requirements should be in a position to add one or two more living rooms.

The plinth area of the building may be approximately 25 square metres. For each State Government there shall be a design and research cell to evolve a good number of designs suitable for various geographical regions and for various kinds of building materials which are locally available.

#### COST OF DEVELOPMENT AND CONSTRUCTION OF HOUSES:

The cost of acquisition of development of land and the construction of houses on " Self-help basis" may not be more than Rs.2,000/- per house. The Town Planning Department of the State Government has evolved suitable designs of houses which may not cost more than Rs.1,500/-. To ensure sufficient impact in the Rural Areas of the State it shall be possible to build at least 1,00,000/- such houses during very plan period of Five Years. At this rate at the end of twenty-five years it will/possible to provide atleast 1 million additional houses in the Rural Areas of the State. The investment required per plan period will be in the order of Rs.20 crores and in the larger interest of the rural community it shall not be difficult for the Government.

#### ORGANISATION FOR THE PLANNING AND EXECUTION:

The success in the matter of implementation of this scheme mainly depends upon the type of organisation we buildup

for planning and execution.

In each State Headquarters there shall be a research cell which shall conduct research in all matters of planning and execution of the scheme including the designing of the buildings ( both domestic and public ) suitable for various regions with different climatic conditions and with different kinds of building materials and methods of construction.

There shall be a Regional Planning Board for each Planning Region which shall decide the heirarchy of the settlements and also shall indicate the different levels and types of developments in each of the Sub-Regions. It shall guide all the developments in the area under its jurisdiction.

Each district shall have its machinery for planning and execution of this scheme according to the policies laid down in the Regional Plan. This executive body shall have the following wings:-

1. The wing consisting of social Welfare Officers which should enlighten the beneficiaries about the benefits of this scheme and mobilise their full co-operation and service for the execution of the scheme. They should complete this part of work before the engineers step in for the construction of houses and for land developments.
2. The Planning and designing wing shall consist of Architects and Planners. This wing shall prepare the detailed layouts and the designs of houses for each settlement after conducting necessary surveys.
3. The construction wing which shall consist of civil Engineers with specialisation in building engineering and public health engineering. It shall prepare the land for building purposes construct houses, and other buildings and provide water supply, drainage, electric supply etc.,

There shall be an efficient administrative wing to co-ordinate the working all these three wings with different executive functions.

**CONCLUSION:-** Having realised the dangers of rapid growth of population, our Government have given a right place for the Family Planning Programme. We having been declaring that next to food and clothing shelter shall be given importance. Necessary steps are being taken to make our country self-sufficient in food and clothing. But so far efforts made for providing suitable shelter for the population of this country cannot be considered to be adequate. " Stich in time saves nine". Therefore atleast from now on, there shall be sincere efforts for providing adequate number of livable houses for the productive population of our country especially the workers in the urban and rural areas.

CONDITION OF HOUSES  
IN THE RURAL AREAS OF ANDHRA PRADESH ( Source Census '61)

House-holds living in houses used wholly or partly as  
dwelling by the material of wall and roof in the RURAL  
part of the State.

MATERIAL OF WALL		MATERIAL OF ROOF	
Wall with	% (on sample basis)	Roof with	%(on sam- ple basis)
1. Grass,Leaves, reeds or bamboo.	7.8	1.Grass, Leages, reeds Wood or Bamboo	62.7
2. Timber	0.2	2.Tiles, slate, Shingle.	20.1
3. Mud	64.7	3.C.I.Zinc or metal sheets.	0.4
4. Bricks	10.0	4.Asbestos Cement Sheets	0.1
5. C.I.Sheets or other metal sheets	--	5.Brick and Lime	2.1
6. Stone	17.2	6.Concrete and stone slabs	1.5
7. Cement concrete	0.1	7.All other materials (mud roofs inclu- ded)	13.1
8. All other materials	--		
	100.0		100.00

DISTRICTWISE "WORKERS AS AGRICULTURAL LABOURERS"  
IN ANDHRA PRADESH ( in 1 9 6 1 ).

=====

D i s t r i c t .	Agricultural Labourers.
1. Srikakulam	3,76,370
2. Visakhapatnam	2,39,218
3. East Godavari	4,45,934
4. West Godavari	3,91,819
5. Krishna	3,71,674
6. Guntur	4,52,600
7. Nellore	3,14,333
8. Chittoor	2,52,364
9. Cuddapah	2,00,520
10. Anantaour	2,36,779
11. Kurnool	3,36,612
12. Mahabubnagar	2,65,543
13. Hyderabad	1,38,238
14. Medak	1,77,817
15. Nizamabad	1,22,058
16. Adilabad	1,37,280
17. Karimnagar	2,06,614
18. Warangal	2,37,947
19. Khammam	1,72,559
20. Nalgonda	2,60,215
Total: 53,36,494	

PROPORTION OF AGRICULTURAL LABOURERS TO TOTAL  
WORKERS IN RURAL PART OF THE STATE ( 1 9 6 1 )

=====

A r e a	Total Workers	Agricultural Labourers.	% of Agri. Labourers to total workers
Andhra Pradesh	16,404,772	5,140,655	31.3%
Rural			



WORKERS ENGAGED IN PRIMARY OCCUPATION IN THE RURAL AREAS  
OF ANDHRA PRADESH. ( Source 1961 Census )

=====

S.No.	Occupation	Male	Female	Total
1.	Cultivators	45,29,425	27,75,184	73,04,609
2.	Agricultural Workers.	23,67,768	27,72,887	51,40,655
3.	Workers engaged in Mining: Quarrying, live stock Forestry, Fishing Hunting, Plantation and Orchards etc.,	4,13,277	86,337	4,99,614
4.	Total workers in Primary Occupation	73,10,470	56,34,408	1,29,44,878
5.	Total Workers engaged in all occupations listed in 1961 Census	96,14,346	67,90,426	1,64,04,772

=====

Percentage of the workers engaged in Primary Occupation to the total workers in the rural areas of Andhra Pradesh is 79% ( Seventy Nine Percent ).

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Colloquium on  
**Housing and Building Activity in the Southern Region of India**  
Bangalore 18-19 December 1970

Organised by  
**The National Buildings Organisation**  
in Collaboration with  
**The Mysore Housing Board, Bangalore**

**Session 2**

## **Current Housing Activity and Factors Influencing it**



**Government of India**

**National Buildings Organisation**



**and**

**UN Regional Housing Centre Ecafe**

**Nirman Bhawan New Delhi**

18th December, 1970 : 2.30 p.m. to 5.30 p.m.

Technical session-2: Current Housing activity and factors influencing it.

Papers for discussion

1. Trends and amenities in public sector housing.  
Shri L.G.Selvam,  
Adviser(Construction),  
Bureau of Public Enterprises,  
New Delhi.
2. Role played by Tamil Nadu Housing Boarding in activating housing activity in Tamil Nadu.  
Shri T.V.Vasudovan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.
3. Role played by Mysore Housing Board for activating housing and building activity in Mysore State.  
Dr. H. L. Thimmegowda,  
Chairman,  
Mysore Housing Board,  
Bangalore.
4. Pattern and type of construction activity in Andhra Pradesh.  
Shri A.R. Satyanarayana Rao  
Chief Engineer,  
Public works Department(Bldgs.),  
Govt. of Andhra Pradesh,  
Hyderabad.
5. Pattern and type of Industrial housing in Kolar Gold Mine.  
Shri Satyabodha Rao,  
Chief Engineer,  
Central Estate Department,  
Kolar Gold Mines Undertaking,  
Mysore.
6. Trends and amenities provided in Public Sector housing construction.  
Shri V. Narayanan,  
Superintending Engineer,  
Madras Central Circle,  
CPWD, Madras.

Contd...../-.

7. Construction handicaps in big urban Centres.  
Shri V. Narayanan,  
Superintending Engineer, &  
Shri N. Natarajan,  
Executive Engineer,  
Madras Central Circle,  
CPWD, Madras.
8. Role played by Co-operatives in activating housing  
and building activity  
Shri P. S. Bhat,  
President,  
Mysore State Co-operative Housing  
Corporation, Bangalore.
9. An Appraisal of Housing Co-operatives in Southern Region.  
Shri K. R. Debnath,  
Research Officer,  
National Buildings Organisation,  
New Delhi.
10. Building bye-laws and urban housing and building  
activity in Southern Region of India.  
Shri Ajit Simha,  
Indian Standards Institution,  
New Delhi.
11. Architecture in relation to socio-economic needs-with  
special reference to Southern Region of India.  
Shri Shri Manohar,  
Architect Planner,  
Town & Country Planning Organisation,  
New Delhi.
12. Extent of housing activity in Private Sector in  
urban centres of Southern Region of India.  
Shri K. Kumar,  
Deputy Director,  
National Buildings Organisation,  
New Delhi.
13. Public sector current housing and building activity  
in Southern Region of India-its type and centres of  
concentration.  
Shri J. P. Gupta,  
Research Officer,  
National Buildings Organisation,  
New Delhi.
14. Housing & building activity in Public Undertakings in  
Southern Region of India.  
Shri M. Gangadharan,  
Research Officer,  
National Buildings Organisation,  
New Delhi.

15. Research and Development towards Reduction of Building Cost.

Shri G.C. Mathur,  
Joint Director (D),  
National Buildings Organisation,  
New Delhi

16. Cost Reduction through Introduction of new Building Materials.

Dr. A.V.R. Rao,  
Joint Director,  
National Buildings Organisation,  
New Delhi

Chairman : Shri R. G. Gokhale,  
Director,  
National Buildings Organisation,  
New Delhi.

Discussion Leader : Shri T. V. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.

# TRENDS AND AMENITIES IN PUBLIC SECTOR HOUSING

by

Shri L. G. Selvam,  
Adviser (Construction),  
Bureau of Public Enterprises,  
Ministry of Finance,  
New Delhi.

## Summary

(Outlay on townships the public enterprises constitutes 7% of the total outlay on the projects and 60-70% of the investment in township is absorbed in housing. In view of this large share of investment in township and housing, the paper has emphasised the need to the use of new building materials in construction and integrated planning and development of township for achieving economy. The multiplicity of agencies for administration of townships should be avoided. The paper also discusses the scales relating to housing as well township densities, provision of education, health, recreation and other facilities prescribed for public undertakings for future construction.)

## 1.0 Introduction.

1.1 With the unprecedented expansion of the public sector in the industrial and mining fields, the high capital outlays on townships of these undertakings has been a matter of great concern to the Government. The rapid growth of public sector during the post independence period can be well appreciated from the investment figures of the public sector enterprises at the commencement of the various five-year Plans as indicated below:-

	Total investments (Rs. in crores)	Number of units
At the commencement of the First Five Year Plan .. ..	29	5
At the commencement of the Second Five Year Plan .. ..	81	21
At the commencement of the Third Five Year Plan .. ..	953	48
As at 31.3.1966 .. ..	2415	74
As at 31.3.1967 .. ..	2841	77
As at 31.3.1968 .. ..	3333	83
As at 31.3.1969 .. ..	3902	85

Out of the total investments of Rs. 3900 crores at the end of March 1969, the equity capital accounted for about Rs. 1820 crores and long-term loans Rs. 2080 crores. The total outlay on townships in the various public undertakings is estimated at over Rs. 300 crores constituting roughly 7 per cent of the corresponding outlays on the projects. The largest estimated outlay on townships is likely to be in the case of the Hindustan Steel Ltd., where an expenditure of about Rs. 80.38 crores is anticipated. Having regard to the fact that high investment on townships adversely affects the profitability of the undertakings, various steps have been taken by Government to effect economy in the investment on townships.

1.2 In November 1959, Government decided on certain broad principles in the interest of economy regarding the cost of industrial housing in the public sector projects. Prior to this, the public sector undertakings were adopting varying scales of accommodation and the number of categories of quarters adopted in various townships varied from 4 to 38. Similarly, the plinth areas of the quarters varied between 227 sq. ft. to 6259 sq. ft. With a view to bring about certain standards and economy, Government issued instructions in March 1960 (revised in August 1963), laying down 6 types of quarters to suit various pay ranges as indicated below:-

<u>Type</u>	<u>Plinth Area</u> Sq. ft.	<u>Pay Range</u> Rs.
I	365	Below 110
II	400	110-199
III	600	200-399
IV	900	400-849
V	1500	850-1599
VI	2100	Above 1600

(+ 225 sq. ft. for garage and  
240 sq. ft. for Servants Quarters)

These scales were subsequently reviewed by the Bureau of Public Enterprises with a view to effect greater economy and were revised in December 1966 as follows:-

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<u>Type</u>	<u>Plinth Area</u> (Sq. ft.)	<u>Pay Range</u>
I.	365	Upto Rs. 110
II	400	Rs. 111 - 300
III	600	Rs. 301 - 600
IV	900	Rs. 601 - 1250
V	1500+	
	200 (Servant's room and W.C.)	Rs. 1251 - 2000
VI	2100	
	+ 240 (Servant's quarter)	Rs. 2001 and above
	+ 225 (garage)	

Note: (1) For type V quarters garages (plinth area not exceeding 215 sq. ft. each) may be provided upto a maximum of 50% of the total number of such quarters - on actual demand.

(2) Type I and II quarters should be designed to provide for 2 living rooms with separate kitchen, bath and W.C.

(3) The plinth areas of the various types of quarters mentioned above are exclusive of areas occupied by staircases and common passages.

## 2.0 Investment in Housing and Townships.

2.1 Bulk of the expenditure on townships of public sector undertakings varying between 60 to 70 percent is incurred on housing. The expenditure on non-residential buildings has varied from 10 to 16 percent whereas the expenditure on external services has varied between 15 to 30 percent of the total investment. Since housing consumes bulk of the expenditure on townships, the need for effecting economy in the planning, design and construction of houses in the public sector townships is obvious. In March 1962, the Committee on Plan Projects (Planning Commission) had set-up an experts panel under the Chairmanship of Shri N.V. Modak, composed mainly of senior technical personnel, to make a detailed study of planning and space standards for industrial townships. The recommendations of the panel are contained in their report on "Industrial Townships" brought out by the committee on Plan Projects in May 1963. Some of the main recommendations relating to township densities, provisions of education, health, recreation and shopping facilities are indicated below:-

(a) Density

The following densities for the planning of townships were recommended:-

- (i) Township density. - 9 to 12 dwelling units per acre.
- (ii) sector density - 14 to 20 dwelling units per acre.

(b) Education

- (i) Nursery school - One for every 1500 population.
- (ii) Primary school - One for every 3 to 4 thousand population.
- (iii) secondary school. - One for every 9 to 10 thousand population.

(c) Health

A number of beds to be provided in the hospital for different sizes of population were recommended as follows:-

- 10000 population - 30 beds
- 25000 population - 75 beds
- 50000 population - 125 beds
- 1,00,000 population and above - 2 beds for every thousand population.

(d) shops

Shopping facilities have been recommended on the basis of six shops per thousand population suitably distributed among the neighborhood, sectors and the town centres.

(e) Recreation

(i) Community Centre

A community centre has been recommended to serve the civic needs of two adjacent sectors having a population of about 20,000. Similarly, a club has also been recommended for a population of 20,000-30,000.

(ii) Recreation Parks

It has been recommended that 3 to 4 acres per thousand population may be allowed for the provision of recreation parks which could be spread out in the township according to scales indicated below:-

Tot-lot and Children Parks	- Not less than 2000 sq. ft. for every 500 population.
Children Park	- 5000 sq. ft. in each neighbourhood.
Neighbourhood Play Ground.	- Minimum of 2 acres in each neighbourhood.
Neighbourhood Park	- 2.5 acres for each neighbourhood.
Central Park	- The area of central park would depend on the population of the township but a minimum of 30 acres has been considered desirable.

2.2 Apart from the norms and standards contained in the COPP Report referred to above, the Bureau of Public Enterprises have also evolved guidelines and standards relating to specifications and scales of amenities for different categories of quarters, alternative designs for various categories of quarters and guidelines for the construction of administrative offices and canteens. These are briefly indicated in the subsequent paragraphs.

3.0 Norms and standards

3.1(a) Scales of residential accommodation

As explained earlier the revised scales of residential accommodation for various pay ranges were prescribed by the

Contd....6/-.

Bureau in December 1966 for adoption by the public sector undertakings. In addition to laying down these standards, alternative designs for various categories of quarters have also been evolved in the Bureau and issued to the undertakers for their guidance. While evolving these designs, due attention has been given to functional requirements consistent with economy.

(b) specifications and scales of amenities

With a view to effect economy in construction costs, alternative specifications and scales of amenities for various categories of quarters have also been laid down keeping in view the regional variations. It would be seen from the enclosed statement (annexture) that the specifications and scales of amenities (sanitary and water supply fittings, light and fan points, built-in cu-boards/shelves) are both economical as well as functional.

(c) New materials and techniques of construction

Apart from the guidelines mentioned above, steps have also been taken to promote use of new materials such as high strength deformed bars, fly ash and secondary species of timber in building construction. Use of these materials will go a long way in effecting substantial economy in the cost of building construction. It has been roughly estimated that use of fly ash in plain cement concrete and mortar would affect an economy of 3 to 4 percent in the cost of building. Similarly, use of high strength deformed bars would lead to a saving of 30 percent in the cost of steel in RCC works. Use of under-reamed pile foundation is extremely advantageous and economical in case of filled up soil and black cotton soil.

4.0 Integrated Planning and Development of a Common Township.

4.1 The growth of new industry not only has a great influence on the economy of the regions where there are located but it also determines the future spatial patterns of new urban centres constituting foci of employment and other activities in the respective areas. It is, therefore, extremely essential that the development of heavy industrial projects and their townships is properly integrated with the planning and development of areas immediately surrounding them.

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project and its township. Experience has shown that uncoordinated piece-meal development of townships in areas where more than one industrial project are located, has given to numerous problems of planning and administration including duplication of services and amenities which could be avoided by proper integrated planning. These are briefly discussed below:-

- (a) The planning and development of industrial townships in complete isolation with each other leads to difficulties of communications as well as duplication of engineering services and community facilities.
- (b) Lack of coordinated development and planning control over the surrounding lands leads to the development of slums in the vicinities of industrial areas. Benachitti in Durgapur, is an example.
- (c) Separate provisions of education, health, shopping and recreation facilities for each township can be avoided and better facilities provided in a planned manner at lesser cost to each undertaking.
- (d) The multiplicity of agencies constituted for administration of townships by various undertakings can be avoided by having a common township under a single administrative authority.
- (e) setting up of an separate township authority relieves the Public Sector Authorities of the problem of township management and enables them to concentrate more on production.

4.2 The Bureau has already taken up with the Tamil Nadu Government the question of integrated planning and development of a common township for the ~~gnore~~ Industrial Complex near Madras where Madras Refineries Ltd., Madras Fertilizers are located along with the State Government and private sector Projects. The State Government have agreed with the proposal and are taking necessary action in this regard. Similar action is being taken in respect of other undertakings which are located in the same area.

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SPECIFICATION AND SCALES OF AMENITIES FOR TYPE I TO IV  
 QUARTERS IN PUBLIC SECTOR PROJECTS.

Items 1	Specifications 2	Remarks. 3								
<b>I. General</b>										
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">Type I</td> <td style="width: 25%; text-align: center;">Type II</td> <td style="width: 25%; text-align: center;">Type III</td> <td style="width: 25%; text-align: center;">Type IV</td> </tr> </table>	Type I	Type II	Type III	Type IV					
Type I	Type II	Type III	Type IV							
1. Plinth Area	365 sq. ft. 400 sq. ft. 600 sq. ft. 900 sq. ft.									
2. Plinth Height	Should be normally one foot above the pre-determining ground level which should take into consideration efficient surface drainage.									
3. Height of ceiling	9 ft.                      ..                      ..                      ..									
4. Number of units per block	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">Type I</td> <td style="width: 25%; text-align: center;">Type II</td> <td style="width: 25%; text-align: center;">Type III</td> <td style="width: 25%; text-align: center;">Type IV</td> </tr> <tr> <td style="text-align: center;">6, 8 or 12</td> <td style="text-align: center;">4, 6 or 8</td> <td style="text-align: center;">4, 6 or 8</td> <td style="text-align: center;">4, or 6</td> </tr> </table>	Type I	Type II	Type III	Type IV	6, 8 or 12	4, 6 or 8	4, 6 or 8	4, or 6	
Type I	Type II	Type III	Type IV							
6, 8 or 12	4, 6 or 8	4, 6 or 8	4, or 6							

**II. Building specifications-**

- |                                     |   |  |
|-------------------------------------|---|--|
| 1. Foundations                      | (a) Lime concrete with 1½" to 2" nominal gauge stone/over-burnt brick aggregate with 40% mortar comprised of 1 lime: 2 sand/surkhi or 1 lime: 1 surkhi: 1 sand.<br>(b) Cement concrete 1:5:10 (1 cement: 5 sand: 10 aggregate) with 1½" to 2" nominal gauge stone/over-burnt brick aggregate. | high<br>(b) For moist sub-grade, with sub-soil water level at 3 ft. or less below foundation, use cement concrete of richer proportion as may be required by site conditions and loading.  |
| 2. Masonry in foundation and plinth | Brick work/Random rubble masonry with hard stone in lime mortar 1 lime : 2 sand/surkhi, or 1 lime: 1 surkhi: 1 sand, or in cement lime mortar 1 cement: 2 lime: 9 sand, or in cement mortar 1:8   | In cases where the loading on the masonry is more than 80 psi, brick having an ultimate strength exceeding 1500 psi, should be used with cement or cement lime mortar or richer proportion. For moist sub-grade, with sub soil water level less than 3 ft. below foundation, use cement lime mortar 1:1:6. |

1.	2.	3.
3. D.P. proof course	1" thick cement concrete 1:2:4 with stone/over-burnt brick aggregate 2/3" nominal gauge with a coat of bitumen of penetration 30/100 applied over the cement concrete at the rate of 35 lbs. per 100 sq. ft.	
4. Masonry in super structure.	Brick work/Random rubble masonry with hard stone in lime mortar 1 lime: 2 sand/surkhi or 1 lime:1 surkhi:1 sand, or in cement lime mortar 1 cement:2 lime:9 sand, or in cement mortar 1:3.	For two storeyed buildings, 3" N brick wall will suffice in ground and first floors. Thickness of random rubble masonry wall not to exceed 15". 12" thick R.R. masonry walls are now being generally adopted
5. Filling in plinth	With excavated earth finished with a 6" layer of sand or cinders on top.	Special care will have to be taken in case of black cotton or other poor soils.
6. Flooring 6.1 Ground Floor	(a) 1½" cement concrete 1:2:4 with stone/over-burnt brick aggregate (¾" and below) finished with a floating coat of neat cement at ½ cu. ft. per 100 sq. ft. over a bed of 4" rammed stone/brick khoa finished with lime/cement slurry. (b) 3" limeconcrete with 1½" nominal gauge stone/over-burnt brick aggregate with 40% mortar comprised of 1 lime: 2 sand/surkhi or 1 lime: 1 surkhi: 1 sand, and top plastered with ½" thick cement mortar 1:4.	

1	2	3
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(c) ghahabad or Kota or other stone flooring  $\frac{3}{4}$ " to 1" thick bedded in cement mortar 1:5, or in lime mortar 1 lime : 2 sand/surkhi or 1 lime: 1 surkhi : 1 sand and joints finished neat, over 3" lime concrete with  $1\frac{1}{2}$ " nominal gauge stone/over-burnt brick aggregate with 40% mortar comprised of 1 lime:2 sand/surkhi or 1 lime: 1 surkhi: 1 sand.

6.2 First Floor

(a) 1" cement 1:2:4 with stone/over burnt brick aggregate ( $\frac{3}{4}$ " and below) finished with a floating coat of neat cement at  $\frac{1}{2}$  cu. ft. per 100 sq. ft. over RCC slab, stone slab, etc.  
 (b) Ellis pattern flooring consisting of  $\frac{3}{4}$ " cement concrete 1 cement:3 hard broken stone chippings  $1/8$ " to  $3/8$ ", well beaten and polished with towels when mortar has come to the surface, over RCC slab.

(a) In order to prevent tendency of separation of the cement concrete flooring from the RCC slab, it would be desirable to provide a  $\frac{3}{4}$ " thick cushion of lime surkhi mortar 1:2, or cement lime mortar 1:2:9 between the RCC slab and cc flooring.

(c) ghahabad or Kota or other stone flooring  $\frac{3}{4}$ " to 1" thick bedded in cement mortar 1:5, or lime mortar 1 lime:2 sand/surkhi, or 1 lime: 1 surkhi:1 sand and joints finished neat, over RCC slab, stone slab, etc.

6.3 Waterroom and W.C.

6.3.1 Type I to III quarters.

- (a) Ground Floor
- (b) First floor

As in items 6.1(a) or (b)  
 As in items 6.2(a) or (b)

Bath and W.C. to be provided with  $\frac{1}{2}$ " thick dado all round, with cement mortar 1:3 finished with cement painting at the



1.	2.	3.
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6.3.2 Type IV quarters.

Terrazo flooring composed of two layers-top coat  $\frac{1}{4}$ " thick consisting of one part cement to 2 parts marble aggregate and under coat  $\frac{3}{4}$ " thick of cement concrete 1:2:4 with stone/over-burnt brick aggregate  $\frac{1}{2}$ " and down laid over the base specified below:

- (a) Ground floor-
  - (i) 4" rammed stone/brick khoa finished with lime/cement slurry.
  - or
  - (ii) 3" lime concrete with  $1\frac{1}{2}$ " nominal gauge stone/over-burnt brick aggregate with 40% mortar comprised of 1 lime:2 sand/surkhi, or lime:1 surkhi:1 sand.
- (b) first floor-
  - RCC lab, stone slab. etc.

Rate of 70 lbs. cement per 100 sq. ft. Height of dado to be 5'-6" in bath and 3 ft. in W.C.

Bath and W.C. shall be provided with 5'-6" and 3' height of dado respectively to match the flooring. The thickness of under coat for dado will be  $\frac{1}{2}$ ".

7. Doors and windows  
7.1 Frames

- (a) RCC frames 4"x3"
- (b) Wooden frames 3"x2 $\frac{1}{2}$ " from locally available seasoned timber such as Deodar, Sal, Bija sal, Kail, Pillemarudu etc.

RCC Frames may normally be used in Types I, II and III and in subsidiary rooms like kitchen, store of Type IV quarters.

1.	2.	3.
7.2 Door Shutters	(a) Commercial-ply flush shutters.  (b) Pressed Particle Board (chip-board) shutters-pannelled or flush type. (c) Pannelled door shutters 1 1/4" thick from locally available seasoned timber such as Deodar, Sal, Bija sal, Kail, Pillamarudu etc.	Use of flush shutters to be restricted to locations not exposed to sun and rain.
7.3 Window shutters	2/3 pannelled and 1/3 glazed shutters 1 1/4" thick from locally available seasoned timber such as Deodar, Sal, Bija sal, Kail, Pillamarudu etc.	Area of window opening should not be more than 12 to 15% of floor area in hot and dry regions and 15 to 20% of floor area in hot and humid regions. All window frames may be fitted with 5/8 dia. M. S. bars at 4" centres.
7.4 Door and window fittings	As per separate schedule attached.	
8. Plastering		
8.1 Internal surface	1/2" thick plaster lime with mortar 1 lime:2 sand/surkhi or 1 lime:1 surkhi:1 sand, or with cement lime mortar 1 cement:2 lime:9 sand, or with cement mortar 1:6.	The thickness of plaster may be increased to 5/8" for the rough surface of single brick wall or stone masonry.
8.2 External surface	(a) 1/2" thick plaster with lime mortar 1 lime:2 sand/surkhi or lime:1 surkhi:1 sand, or with cement lime mortar 1 cement:2 lime:9 sand, or with cement mortar 1:6. (b) Flush pointing with lime surkhi mortar 1:2, or cement mortar 1:3.	

1	2	2
9. Surface Treatment		
9.1. Interior	Wash with three coats on all internal walls and ceiling.	
9.2 Exterior	Plastered surfaces to be colour washed two coats over a primary coat of white wash.	
10. Roofing-Flat roofs.	(a) Stone slabs 1½" to 2" thick set in cement mortar 1:4 of lime mortar 1:2, over RCC joints. (b) Precast RCC slabs over precast RCC joists. (c) Bourdis tiles set in cement mortar 1:4 or lime mortar 1:3, over RCC joists (d) RCC slab 1:2:4.	
11. Roof terracing	(a) For Hot and Humid Regions Lime concrete terracing, average thickness 3", laid to fall of 1 in 50, with 1" nominal gauge brick ballast and 50% mortar consisting of 1 lime:2 surkhi, topped with two courses of country flat tiles ½" to ¾" thick, breaking joints, tiles set in cement mortar 1:3 mixed with 5% crude oil based on the weight of cement. The joints should be pointed with the same mortar and finally rubbed with a thin iron bar until the pointed surface gets a polish and becomes hard.	(a) In lieu of two layers of country flat tiles, one layer of pressed clay tiles or precast cement tiles or stone slabs may be used. Where good lime is available, and good quality lime concrete terracing can be ensured and where the terrace is not subjected to heavy use, the provision of tiles or stone slabs over the terrace can be omitted. Where the roof terracing is not finished with tiles or stone slab, the RCC slab should be painted with bitumen of grade 30/40 at the rate of 35 lbs. per 100 sq. ft. and bladed with coarse sand at the rate of 2 cu. ft. per 100 sq. ft. before laying the lime concrete.

1.

2.

3.

(5) ... ..  
 10" thick (or more) mud-plaster laid to fall of 1 in 50, consolidated and plastered with 1/2" thick mud goori 3: 1 (3 mud:1 cow dung) and covered with the bricks laid on cement mortar 1:3 mixed with 5% crude oil based on the weight of cement. The joints should be pointed with the same mortar and finally rubbed with a thin iron bar until the pointed surface sets a polish and becomes hard.

(6) Fine concrete terracing as given in (5) may be adopted in place of mud-plaster in case good earth is not available.

III. sanitary fittings & water taps-

	Type I	Type II	Type III	Type IV
1. Indian type W.C. with overhead flushing cistern	1	1	1	1
2. Taps (Kitchen, bath W.C.)	3	3	3	3
3. Shower	1	1	1	1
4. Wash basin with one tap	-	-	1	1

IV. Built in amenities

1. Kitchen	(i) Tier of shelves along one wall not more than 15" wide. (ii) Floor sink	(i) Tier of shelves along one wall not more than 15" wide. (ii) Floor sink.	(i) Tier of shelves along one wall not more than 15" wide. (ii) Floor sink.	(i) Tier of shelves along one wall not more than 15" wide. (ii) Floor sink. (iii) Sink with draining board. (iv) Built in cupboard with shelves and fly proof shutters, not exceeding 3 ft. in width and 18" in depth.
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Contd.....3/-.

1	2	3	
2. Living room	Built in open cupboard with shelves not exceeding 3 ft. in width and 12" in depth.	Built in open cupboard with shelves not exceeding 3 ft. in width and 12" in depth.	Built in open cupboard with shelves not exceeding 3 ft. in width and 12" in depth.
3. Bed rooms	Built in cupboard with shelves and shutters, not exceeding 3 ft. in width and 12" in depth.	Built in cupboard with shelves and shutters, not exceeding 3 ft. in width and 12" in depth.	Built in cupboard with shelves and shutters, not exceeding 3'-6" in width and 15" in depth with storage space above in each bed room.
Rear Verandah	-	-	Built in cupboard with shelves and shutters, not exceeding 3'-6" in width and 12" in depth. Tier of shelves not more than 15" wide, all round.
6. Loft.	One	One	One
V. Electrical Installation.			
1. Lights	5	6	7
2. 5 amp. plug	1	2	3
3. 15 amp. plug	-	-	-
4. Fan	-	1	2

NOTE:- alternate specifications have been given for the various items. Choice of a particular specification will depend upon local climatic conditions, availability of materials locally and their cost.

(PARTS I, II, III & IV)

	Double leaf entrance pannelled / glazed door shutters.	Double leaf pannelled / glazed door shutters.	single leaf entrance pannelled / glazed door shutters	single leaf outer-co. sunica-ting pa-nelled door shutters.	single leaf door shutters battened & braced with top and bottom clearance for bath & WC	double leaf window shutter.	single leaf window shutter.
1. Oxidised iron Butt hinges 4"	6	6	3	3	3	-	-
2. Oxidised iron butt hinges 3"	-	-	-	-	-	4	2
3. Oxidised iron power bolt (Barrel type) 6"	3	3	2	1	-	-	-
4. Oxidised iron power Bolt (Barrel type) 4"	-	-	-	-	2	2	1
5. Oxidised iron sliding door bolt-12"	1	-	1	-	-	-	-
6. Oxidised iron sliding door bolt-10"	-	1	-	1	-	-	-
7. Oxidised iron handles-4"	2	2	2	2	-	1	1
8. Wooden clots (chocks) with hinges	2	2	1	1	-	2	1
9. Wooden stopper 4"	2	2	1	1	-	2	1

Contd.....10/4



SPECIFICATIONS AND SCALES OF AMPLIFIED FOR TYPES VII AND VI QUARTERS IN PUBLIC SECTOR PROJECTS

Items	Specifications	Remarks
I. General- (1)	(2)	(3)
1. Plinth Area	Type I-1500 sq. ft. 100 sq. ft. (servant's room and I.C.) 215 sq. ft. (garage-up to 40% of type V quarters only to be provided with garages)	
	Type VI-2100 sq. ft. 240 sq. ft. (servant's quarter) 225 sq. ft. (garage)	
2. Plinth Height	Should be normally 1'-6" above the pre-determined ground level which should take into consideration efficient surface drainage.	
3. Height of ceiling	9'-6"	
4. Number of units per block	Type I-In blocks of 2 or 4 units Type VI-Single units, or in blocks of two units.	
II. Building specifications-		
1. Foundations	(a) Lime concrete 1½" to 2" nominal gauge stone/over-burnt brick aggregate with 40% mortar composed of 1 lime; 2 sand/surkhi or lime:1 surkhi:1 sand. (b) Cement concrete 1:5:10 with 1½" to 2" nominal gauge stone/over-burnt brick aggregate.	For moist sub-grade with high sub-soil water level at 3ft or less below foundation, use cement concrete of richer proportion as may be required by site conditions and loading.



1.	2.	3.
6. Other Rooms	<p>(a) 1" cement concrete 1:3:3 with steam/over-burnt brick aggregate (1" below) finished with a floating coat of neat cement at <math>\frac{1}{2}</math> cu. ft. per 100 sq. ft. over R.C.C. slab.</p> <p>(b) Ellis pattern flooring consisting of <math>\frac{3}{4}</math>" cement concrete 1 cement:3 hard broken stone chippings <math>\frac{1}{8}</math>" well beaten and polished with trowels when mortar has come to the surface over RCC slab</p>	<p>In order to prevent tendency of separation of the cement concrete floor from the R.C.C. slab, it would be desirable to provide a <math>\frac{1}{2}</math>" thick section of lime surkhi mortar 1:2 or cement lime mortar 1:1:9 between the RCC slab and CC flooring.</p>
7. Door and Windows		
7.1 Frames	<p>(a) R.C.C. frames 4" x 3"</p> <p>(b) Wooden frames 3"x2<math>\frac{1}{2}</math>" from locally available seasoned timber such as Sal, Teak, 1st class Deodar, Bija Sal etc.</p>	<p>RCC frames may normally be used in subsidiary rooms like kitchen store etc. Where double shutters are provided frames should be 4" x 3".</p>
7.2 Door shutters	<p>(a) Flush shutters with teak veneer facing for main entrance door and in doors of living room.</p> <p>(b) Flush shutters with commercial-ply for other doors.</p> <p>(c) Pressed particle board (chipboard) shutters-panelled or flush type.</p> <p>(d) Panelled door shutters <math>\frac{1}{2}</math>" thick from locally available seasoned timber such as Sal, Bija Sal, Teak, 1st class Deodar etc.</p>	<p>Use of Flush shutters to be restricted to locations not exposed to sun and rain.</p>

(i) 4" rammed stone/brick khaa finished with lime/cement slurry) or  
(ii) 3" lime concrete with 1½" nominal gauge stone/over-burnt brick aggregate with 40% mortar comprised of 1 lime: 2 sand/surkhi or 1 lime: 1 surkhi: 1 sand.

(b) Terrazo flooring with precast terrazo tiles ½" thick, laid on average 1" thick bed of lime mortar 1 lime: 2 sand/surkhi or 1 lime: 1 surkhi: 1 sand, with neat cement slurry mixed with pigment to match the shade of the tiles between joints, over the base specified in item (a) above.

Skirting and dado to be provided as in item (a) above. Thickness of terrazo tiles, however, will be ½" and will be laid on ½" thick cement plaster 1: 3.

#### 6.1.2 Other Rooms

(a) 1½" cement concrete 1:2:4 with stone/over-burnt brick aggregate (½" and below) finished with a floating coat of neat cement at ½ cu. ft. per 100 sq. ft. over a bed of 4" rammed stone/brick khaa finished with lime/cement slurry.

(b) 3" lime concrete with 1½" nominal gauge stone/over-burnt brick aggregate with 40% mortar comprised of 1 lime: 2 sand/surkhi or 1 lime: 1 surkhi: 1 sand and top plastered ½" thick with cement mortar 1:1.

#### 6.2 First Floor

6.2.1 Living Room  
Dining Room, Front  
Verandah, Bath &  
W.C. in type VI  
and in master bed  
room of type VI  
only.

Terrazo flooring-as in items 6.1.1(a) or (b) above to be laid over RCC slab, stone slab etc.

Contd.....13/-.

1	2	3
10. Roofing- Flat roofs.	(a) Precast RCC slabs over Precast RCC beams (b) RCC slab 1:2:1.	
11. Roof terracing	Lime concrete terracing, average thickness 3", laid to fall of 1 in 50, with 1" nominal gauge brick ballast and 50% mortar consisting of 1 lime:2 sand, topped with 2 courses of country flat tiles 1/2" to 3/4" thick breaking joints, tiles set in cement mortar 1:3 mixed with 5% crude oil based on the weight of cement, the joints should be pointed with the same mortar and finally rubbed with a thin iron bar until the pointed surface gets a polish and becomes hard.	In lieu of two layers of country flat tiles one layer of pressed clay tiles, or precast cement tiles or stone slabs may be used. Where good lime is available and good quality lime concrete terracing can be ensured and where the terrace is not subjected to heavy use the provision of tiles or stone slabs over the terrace can be omitted. Where the roof terracing is not finished with tiles or stone slabs, the RCC slab should be painted with bitumen of grade 30/40 at the rate of 35 lbs. per 100 sq. ft. and bladed with coarse sand at the rate of 3 cu. ft. per 100 sq. ft. before laying the lime concrete.

III. sanitary fittings & water taps.	Type V	Type VI
1. Indian type W.C. with overhead finishing cistern	1 in main building and 1 in servant's quarters	1 in main building and 1 in servant's quarter.
2. European type W.C. with overhead or low level flushing cistern	1	2
3. Wash basin with one tap each	2	3
4. Taps	4(2 for kitchen and 2 for baths) 2(in servant's quarters)	5(2 for kitchen and 3 for bath) 3(in servant's quarters)

- 7.3 Window Shutters Fully glazed shutters 3/4" thick made of locally available seasoned timber such as Sal, Bija Sal, peak, 1st class Madar, etc.
- 7.4 Door and window fittings. As per separate schedule attached.
8. Plastering
- 8.1 Internal surface 1/2" thick plaster with lime mortar  
1 lime: 2 sand/surkhi or 1 lime:1 surkhi:1 sand or with cement lime mortar 1 cement:2 lime:9 sand, or with cement mortar 1:6.
- 8.2 External surface.  
(a) As in item 8.1 above.  
(b) flush pointing with lime surkhi mortar 1:2 or cement mortar 1:3.
9. Surface Treatment
- 9.1 Interior
- 9.1.1 Living & dining rooms in types V & VI and Master bed room of type VI only Two coats of dry distemper over an initial coat or chalk whitening.
- 9.1.2 Other rooms verandah and passage, ceiling etc.  
(a) White washing three coats.  
(b) Colour washing two coats over a primary coat of white wash.
- 9.2 Exterior Colour washing two coats over a primary coat of white wash.
- In window and entry, shutters with fly-proof mesh may be provided in addition area of window opening should not be more than 12 to 15% of floor area in hot and dry regions, and 15 to 20% in hot and humid regions. All window frames of main rooms may be fitted with iron grills of simple and inexpensive design. Other window frames may be fitted with 5/8" dia. M.S. bars at 4" centres.

5. Shower  
 IV. Built-in  
 amenities

1. Kitchen
2. Store Room
3. Bath Rooms
4. Living room and study
5. Dining Room
6. Bed Rooms.
7. Loft.
8. Servant's quarter

- (i) Pier of shelves along one wall, not more than 15" wide.
  - (ii) Floor sink.
  - (iii) Sink with draining board
  - (iv) Fly-proof shutters for doors and windows
  - (v) Built-in cupboard with shelves and fly-proof shutters, not exceeding 3 ft. in width and 12" in depth.
  - (vi) Built in cupboard with shelves & shutters not more than 12" in depth below window sill level along one wall; with flat stone or RCC slab on top.
- Pier of shelves, not more than 15" wide, all round.
- |                                  |   |   |
|----------------------------------|---|---|
| (i) Glass shelves with brackets. | 2 | 3 |
| (ii) C. P. Towel rail            | 2 | 3 |
| (iii) Mirror                     | 2 | 3 |
- Built-in open cupboard with shelves not exceeding 3'-6" width and 12" in depth.**
- Built-in. cupboard with shelves, drawers and shutters not exceeding 4-6" in width and 15" in depth.**
- Built-in wardrobe with shelves and shutters not exceeding 3/6" in width and 24" in depth, with storage space above, in each room.
- One.
- Pier of shelves not more than 15" wide, along one wall.

			TYPE V	TYPE VI
<b>7. Electrical Installations-</b>				
1. Lights in main building & servants' quarters	..	..	13	20
2. Lights in garage	..	..	1	1
3. Fans	..	..	5	6
4. 5 amp. Plugs	..	..	6	7
5. 15 amp. Plugs	..	..	2	3
6. Call bell	..	..	1	1

Note:- Alternate specifications have been given for the various items, choice of particular specification will depend upon local climatic conditions, availability of materials locally and their cost.

**SCHEDULE OF FITTINGS FOR DOORS AND WINDOWS  
(TYPE V & VI)**

	Doors			Windows	
	at entrance	In main rooms	In kitchen bath, store servants quarters etc.	In main rooms	In kitchen, bath store, servants quarters etc.
1. Oxidised iron butt hinges-4" 3 per leaf	3 per leaf	3 per leaf	3 per leaf	-	-
2. Oxidised iron Butt hinges-3"	-	-	-	2 per leaf	2 per leaf
3. Oxidised iron tower bolt (barrel type)-6"	-	-	1 per leaf	-	-
4. Oxidised aluminium tower bolt - 6"	3 for double leaf	3 for double leaf	-	-	-
	2 for single leaf	2 for single leaf			

5. Oxidised iron tower bolt (barrel type)-4"	-	-	-	-	1 per leaf
6. Anodised aluminium tower bolt - 4"	-	-	-	1 per leaf	-
7. Oxidised iron sliding door bolt-10"	-	-	1	-	-
8. Anodised aluminium sliding door bolt-12"	1	-	-	-	-
9. Anodised aluminium sliding door bolt-10"	-	1	-	-	-
10. Oxidised iron handles-4"	-	-	-	1	1
11. Anodised aluminium handles-4"	2	2	-	-	-
12. Wooden cleats-chocks with hinges	1 per leaf	1 per leaf	1 per leaf	1 per leaf	1 per leaf
13. Wooden stopper-4"	1 per leaf	1 per leaf	1 per leaf	1 per leaf	1 per leaf

Role played by Tamilnadu Housing Board for activating housing activity in Tamil Nadu.

by

Shri T. Vasudevan,  
Chairman,  
• Tamil Nadu Housing Board

### Summary

Tamil Nadu Housing Board functions through Housing Units located at Tiruchirapalli, Madurai and Coimbatore. The paper describes various schemes undertaken by the Housing Board for meeting housing needs of the people. The target housing programmes of the Board have not been fully achieved due to paucity of funds. The paper spells out scheme of making a profit of Rs. 3.13 crores in 15 years time with the help of seed capital loan of Rs. 13.61 crores intended to be taken from Central Housing and Urban Development Financing Corporation.

#### 1. Introduction

1.1 As per the census of 1961, there was shortage of 60 lakhs houses in the year, 1961. By the end of the Fifth Five-Year Plan, this shortage is likely to increase to 90 lakhs. The shortage of houses is felt more actually in the urban areas and hence to tackle the housing problem, the City Improvement Trust for Madras City was established in the year, 1945. This Organisation has been able to meet the demand for housing to a considerable extent with the financial assistance from the Government. As it was considered that the development of Housing should not be confined to the City alone, but extended to the Districts also, the Tamilnadu Housing Board was established in April, 1961, with three Housing Units at Tiruchirapalli, Madurai and Coimbatore. The Board being a statutory body with members from various departments, it is able to plan and co-ordinate the housing activities in the state and ensure expeditious and efficient implementation of the housing programmes. Accordingly the planning and execution of the various housing schemes of all categories under such agencies like the Public Works Department, Rural Housing Cell, Corporation of Madras, Co-operative Societies and Labour Department come under the purview of the Tamilnadu Housing Board. The Co-operative Housing Wing formerly under the control of the Registrar of Co-operative Societies has now been attached to the Tamilnadu Housing Board. The various schemes dealt with by the Housing Board have been spelt out in the paper.



2. Tamil Nadu Housing Board Schemes.

2.1 Land Acquisition and Development Scheme:

2.1.1 This scheme aims at large scale acquisition of lands in advance, with a view to prevent speculation in land prices, to make lands available for housing purposes at a reasonable cost and also for relieving congestion in large growing towns.

2.1.2 The Tamilnadu Housing Board administers the scheme on no profit no loss basis. It acquires vast tracts of lands in and around the town and develops them into self contained small townships and/or neighbourhoods with good pucca roads, street lights, water supply, drainage, play fields, parks and other common amenities like schools, hospitals, shops, playgrounds, etc. Under this scheme house-sites are allotted to public individuals co-operative societies, or other institutions. The conditions of sale under which sites are allotted or sold in public auction, prohibit their re-selling to any other persons within a period of 5 years at least, during this period the party is required to put up a house. Having thus created an interest, it is very unlikely that the party will sell the land or house and this checks the speculation of land values. This scheme is financed from the funds given by the Life Insurance Corporation and also by ploughing back the sale amount.

2.2 Middle Income Group Housing Scheme:

2.2.1 This scheme was formulated by the Union Government and was introduced in the state in March, 1959. This scheme envisages the provision of housing accommodation to those whose annual income exceeds Rs.7,200/- does not exceed Rs.15,000/- per annum.

2.2.2 The ceiling cost of this scheme is 80% of the cost of construction including the land subject to a maximum of Rs.30,000/- per house.

2.2.3 The scheme is executed by the Tamilnadu Housing Board and the Co-operative Sector. The loans are utilised by the Tamilnadu Housing Board for the construction of houses for letting to eligible persons or for the purpose of letting them out on rental basis to eligible individuals provided that not more than 50% of the money utilised for such rental projects are that not more than 25% of such houses are given to the employees of the State Government.

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## 2.3 Low Income Group Housing Scheme:

2.3.1 This scheme was introduced first in the year 1955-56 is intended to benefit persons whose annual income does not exceed Rs.7,200/- per annum. Loans not exceeding 80 per cent of the cost of constructions (inclusive of land cost) but subject to the maximum of 12,500/- per house are given. The State Government is at present implementing the scheme through the Tamilnadu Housing Board and Co-operative Sector.

2.3.2 Houses/flats under lower and middle income group housing schemes are constructed under this scheme and are sold to the eligible persons on outright purchase or hire purchase spread over a period of 20 years on an annuity basis. These are constructed on the developed sites also.

## 2.4 Slum Improvement/Clearance Scheme:

2.4.1 There is a considerable section of society in all urban areas, which lives in slums. It has migrated to these slums on account of the level of income being too low for it to afford to pay the high rent for pucca houses in urban areas or on account of it being forced to live near the places of work, for consideration of distance or lack of quick transport to be in time at the workspot. The people in this strata of society are mostly domestic servants, milk vendors, daily wage labourers, artisans, sweepers, scavengers, petty shopkeepers and industrial workers. The slum consist of cramped, ill ventilated and insanitary huts, constructed by them in places which were found vacant. The development of these slum has been in a very hapazard manner. The density of population in the slums is high and the health condition in these areas is appalling. As per the survey conducted in 1961, there were about 491 slums in Madras City alone. The present position would have changed and the total number of slums would have increased considerably by this time. In order to reduce the density of population slum dwellers are settled on open developed plots or provided with pucca tenements to live in. This scheme is now implemented solely by the Tamilnadu Housing Board in various facets.

2.4.2 Open Developed Plots:- Under this category, each family is provided with a developed plot measuring about 1000 square feet and all the required hutting materials costing about Rs.253 besides a cash grant of Rs.32.50 for executing a hut on the plot on self help basis. A pucca bath and F.O.L. are also provided for each plot by the Board. The colony is provided with all amenities like street lightings, roads, water supply, drainage, avenues, etc. A subsidised rent of Rs.3/-p.m. is collected for each plot though the Government of India have allowed the levy of rent ranging from Rs.5/-to Rs.11/- per plot. The density per acre for Open developed Plot is 20 to 75 families.

2.4.3 Tenements:- Under this method, pucca tenements in single double or multi-storeyed buildings are constructed by the Tamilnadu Housing Board and allotted to eligible slum dwellers on rental basis. Each tenement will have a room of 120 square feet verandah, kitchen of 84 square feet, bath and lavatory 16 and 12 square feet respectively. The rent fixed by the Government of India ranges from Rs. 12/- to Rs. 30/- p.m. But the State Government have reduced the rent to Rs. 10/- p.m. subsidising the difference between the economic rent and the subsidised rent from state Funds. The standard density prescribed for these storeyed tenements varies from 20 to 60 families per gross acre.

2.4.4 The financial costs involved in various Slum improvement/clearance Schemes are:

	Rs.
(i) Open developed plot	... 1,850
(ii) Skeletal house	... 2,900
(iii) Single storeyed tenements	... 4,850
(iv) Double storeyed tenements	... 5,100
(v) Multi-storeyed tenements	... 6,750

For items (i) to (iv) Rs. 100/- extra is allowed per dwelling unit in towns with a population of more than three lakhs and Rs. 450/- extra per dwelling unit in towns where the population is one to three lakhs. In respect of construction of skeletal and pucca houses in black cottong soil or reclaimed or hill areas necessitating deeper and stronger foundation, etc or higher transport costs, etc. Rs. 550/- extra per house on the overall ceiling cost is allowed.

2.4.5 The main problem facing the housing is non-availability of housing sites in the Madras City and other towns of the Tamil Nadu State. Many people who are not having subsistant income in the villages are migrating into Madras City and other towns of the Tamil Nadu State creating number of slum areas with insanitary conditions. Inspite of the best efforts taken by the State Government it is not possible to check this migration and how this problem is tackled in the foreign countries viz., Britain, France and Italy may be examined. By adopting conventional ways of construction, the cost of construction is high and the time taken for the construction appears to be the long (approximately 12 to 18 months is required for completing a three storeyed building with all amenities). By adopting the pre-fabricated housing, time of construction may be reduced considerably.

2.4.6 There is a clamour among the slum dwellers and industrial workers for owning the tenements rather than living in tenements on rentable basis. Till now the Government of India and the State Government have adopted a policy of constructing the tenements for slum dwellers and industrial workers on rental

basis only where 50% of the cost of construction is subsidised by the State and Union Governments. This problem also may be examined how the foreign countries are constructing houses for industrial workers and slum dwellers.

## 2.5 Tamilnadu Government Servants' Rental Housing Scheme:

This scheme is intended mainly for the low paid employees of the State Government to provide apartment on a purely rental basis. The State Government are collecting only subsidised rent of 10 per cent of pay of allottee and the House Rent Allowance admissible to them. The quantum on rent recovered on this basis is less than the economic rent and the Government Servants thus enjoy the element of Government subsidy as the difference is met by the State Government. The Tamilnadu Housing Board is the agency for execution of the scheme and it also maintains the property after execution. The ownership of the building vests with the State Government. The houses under this scheme are generally constructed on Government lands. Apart from the City where there are various schemes under execution the State Government have decided to construct atleast 50 houses in each head quarters for being allotted to the low paid employees.

## 2.6 Subsidised Industrial Housing Scheme:

2.6.1 With the rapid industrialisation of the country in the private and public sector after taking up the Five Year Plan, the population engaged in industries, forms a considerable section. Most of them cannot afford to have houses of their own or live in places far away from the workspot. Some managements of industries provide quarters for their workers and staff and this hardly touches the fringe of the problem. The Government of India have therefore, sponsored this scheme to enable the housing of the Industrial workers in decent places near about their workspot.

2.5.2 Under this scheme financial assistance is extended to State Governments, Housing Board, Local Bodies, Co-operative Societies for Industrial labourers and enterprenous to construct houses for the benefit of Industrial workers covered by Factory Act.

2.6.3 A ceiling cost of Rs. 4,850/- for single-roomed tenements and Rs. 5,100/- for double-roomed tenements has been fixed by Government of India. In places of population is more than three lakhs and between 1 to 3 lakhs, an extra amount of Rs. 1,100/- and Rs. 450/- respectively per tenement is allowed.

### 3. Mode of Financing Housing Schemes:

3.1 The first three schemes viz., Land Acquisition and Development Scheme, Low Income Group and Middle Income Group and Tamil Nadu Government Rental Housing Scheme are financed from the plan funds by the State Government.

3.2 It has been found from experience that the funds made available by the State Government are very inadequate with the result that the Board has to execute a major portion of these schemes either from its own funds (such as sale proceeds of land etc., which are ploughed back) or by floating public loans when public loans of Rs.110 lakhs and Rs.220 lakhs were raised during January 1969 and 1970 respectively. This may be seen from Table I showing the inadequacy of the plan funds made available to the Board during 1969-70 and 1970-71 and the amount actually spent by the Board during the 1967-68 to 1970-71 is enclosed. It will be seen therefrom that the Housing Board is not in a position to implement in full the IV Five Year Plan Programme due to inadequate allocation of funds as indicated therein. This aspect needs urgent consideration by the Planning Commission with a view to ensure that the funds provided for as per the IV Five Year Plan are actually made available to the Housing Board to implement the various housing programmes.

3.3 Previously, for each housing scheme, definite pattern of financial assistance was fixed and accordingly, the Government of India were releasing funds, as loans and grants. Now, as a policy decision, this pattern of Assistance has been abolished and hereafter, bulk loans and grants, will be given to the State Governments.

### 4. Building Materials Production:

#### 4.1 Cellular Concrete Plants:

In pursuance of the economic co-operation between the Government of India and the Government of the Polish Peoples Republic of 1962, an agreement was signed between the Tamil Housing Board and Messrs. Cekob of Poland on 23rd September, Madras. The machineries are being imported and preliminary are going on. A letter of authority for Rs.1.04 crores has been issued by the Government of India, Ministry of Finance and Polish Bank for the purpose. The investment cost of the plant is estimated at Rs.285 lakhs. The foreign exchange involved is about Rs.1.04 lakhs. The plant is expected to go into regular production in the near future. The Government of India has agreed to meet the entire cost of the project as loan outside the State Plan.

4.2 Brick Plant:

A proposal to start a Mechanised Brick Plant by the Tamil Nadu Housing Board with collaboration of Chechoslovakia has been under consideration for some time. A letter of credit has been opened for Rs.18 lakhs with the suppliers towards the cost of machinery. The investment cost of the project is around Rs.98.80 lakhs and the foreign exchange Rs.21.09 lakhs. The plant has now been proposed to be transferred to the Industries Department. However, the machineries will be imported by the Tamil Nadu Housing Board and passed on to that Department.

5. Proposals of Current Housing Schemes:

5.1 The Central Housing and Urban Development Finance Corporation has promised to render some financial assistance to the Board by way of loans from the revolving fund created by them. The Tamil Nadu Housing Board has submitted proposals for Rs.17.36 crores to the said Corporation in respect of the following schemes:-

(i) Land Acquisition and Development Scheme - It is proposed to acquire, develop and sell about 8,620 grounds incurring an expenditure of Rs.437.00 lakhs over a period of 4 years.

(ii) Single bed-roomed houses (Under L.I.G. Scheme) - It is proposed to construct 4,000 units for a sum of Rs.530.00 lakhs over a period of 4 years.

(iii) Two bed-roomed houses (Under M.I.G. Scheme):- It is proposed to construct about 2,650 units at a cost of Rs.739.00 Lakhs over a period of 4 years.

5.2 Although the total estimated cost as indicated above would be of the order of Rs.17.36 crores, we propose to get a loan of seed capital of Rs.13.61 crores only from the Housing and Urban Development Finance Corporation over a period of 4 years as indicated in Table 2.

TABLE 2: Loan procurement proposals from Central Housing & Urban Development Financing Corporation.

Proposal	1st Year	2nd Year	3rd Year	4th Year	Total
Land Development	89.88	71.45	47.68	17.31	226.32
Land Development	12.12	9.63	6.43	1.92	30.16
Single Bed roomed.	149.80	119.09	109.01	98.23	476.13
Two Bed roomed	197.74	157.20	143.89	129.67	628.50
Total	449.54	357.37	307.01	247.25	1361.17

5.3 The details of mode of investment and mode of ploughing back invested money under the three schemes are indicated in annexure I (Tables 3 to 7) II (Tables 8 to 18) and III (Tables 19 to 24).

As would be seen from details worked by Housing Board a net profit of Rs.3.13 crores at the end of 15 years when the entire amount of Rs.13.61 crores obtained as loan will be repaid to the Corporation.

TABLE 1: Expenditures and Plan Provisions.

Schemes	Expenditure involving both States & Boards funds							
	1967-68	1968-69	1969-70	1970-71				
	Finan- cial	Physi- cal	Finan- cial	Physi- cal	Finan- cial	Physi- cal	Finan- cial	Physi- cal
2	3	4	5	6	7	8	9	10
	Rs. in lakhs		Rs. in lakhs		Rs. in lakhs		Rs. in lakhs	
Low Income Group Housing Scheme.	25.85	415	15.02	437	52.69	600	60	420
Middle Income Group Housing Scheme.	27.30	168	18.79	225	63.15	450	140	560
Slum Improve- ment/Clearance Scheme.	106.84	1524	105.35	2998	83.29	1800	100	2000
Union Govern- ment Rental Housing Scheme.	37.26	1716	36.24	808	53.08	502	100	500
Subsidised Industrial Housing Scheme.	1.42	60	0.45	-	0.73	-	-	-
Fire Proof tenements.	3.04	793	1.85	50	9.31	982	-	-
Land Acquisi- tion & Deve- lopment Scheme.	127.12	*250	139.07	*146	187.72	*162	335	-
Cellular Con- crete plant.	2.79	**	109.62	**	60.85	**	-	-

\* Extent in acreage taken over  
 \*\* Erection of the Plant is in progress.



TABLE 3

PROPOSAL 1

Central Revolving Fund Integral Projects.

Schedule of Analysis  
(to be furnished for each project separately)

General

Name of organization.	.. Tamil Nadu Housing Board
Name of State.	.. Tamil Nadu
Name/Location of project (Name of the nearest town and its* population to be indicated).	.. Madras City - *21.00 Lakhs Vellone - 2.00 "
Whether the area is covered by any Master/Interim general Plan.	.. Yes. By Interim General Plan.
Duration of project.	.. 5 years in two cycles for development. 8 years for two cycles for repayment.
Total estimated investment	.. Rs. 382 Lakhs.
Total anticipated return (Gross)	.. Rs. 471.91 Lakhs.
Net profit anticipated	.. 105.68 Lakhs.
Net seed capital required (in lakhs of rupees)	.. 1st Year Rs.29.00 2nd Year Rs.71.45 3rd Year Rs.47.68 4th Year <u>Rs.17.38</u> <u>Rs.226.39</u>

Plans for future re-investment  
(rough indication)

Other major cities and major  
municipalities of the State.

II hand

Present stage of acquisition  
i.e. whether the land is  
already in possession of the  
State Government or otherwise  
the time by which it will  
become available.

The lands are at the  
disposal of the Tamil  
Nadu Housing Board.

Table 3 (Contd...)

Gross Area (Acquired or proposed to be acquired) in Acres. .. 600 Acres.

Net ~~available~~ **available** area:

- (a) For country services (Hospitals, Schools etc.) at 15% .. 90 Acres.
- (b) For construction of buildings at 55% .. 330 Acres.
- (c) For Roads and open spaces at 30% .. 180 Acres.

.....

Table 4

PROPOSAL No. 1.

Land development scheme at Korattur, North Madras, Thiruvanniyur and Vellore.

Total Area	..	5820 Grounds.
Total Cost	..	382 Lakhs.
Cost per ground	..	Rs.6,600/-

Expenditure chart in Lakhs.

Cost per ground

	1st year	II Year	III Year	IV Year	V Year
1 Cycle	84.00	84.00	84.00	65.00	65.0 <sup>A</sup>

Cost per ground = Rs.6,600/-

With profit at 10% = Rs.7,260/- or Rs.7,250/- (Rounded)

Interest to be paid to the Government. = 7%

Management charges = 1%

8%

Period of recovery is 3 years.

TABLE 5  
REVENUE CHART (Rupees in lakhs)

	I Year	II Year	III Year	IV Year	V Year	VI Year	VII Year	VIII Year	IX Year	X Year	XI Year	XII Year	XIII Year	XIV Year	XV Year
<u>I Cycle:</u>															
Initial Payment		23.10	23.10	23.10											
Annual Interest			26.89	53.78	80.67	53.78	26.89								
<u>II Cycle:</u>															
Initial Payment					17.90	17.90									
Annual Interest						20.80	41.60	41.60	20.80						
Total Receipt.		23.10	49.99	76.88	98.57	92.48	68.49	41.60	20.80						

TABLE 6

REPAYMENT CHART FOR L.A.

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
Expenditure	84.00	84.00	84.00	65.60	65.00										
Revenue		23.10	49.99	76.88	98.57	92.48	68.49	41.60	20.80						
Seed Capital	84.00	60.00	34.01	2.75											
Interest	5.88	10.55	18.67	14.63											
Capital cost and Interest	89.88	71.45	47.38	17.38											
<u>Repayment to the Corporation</u>	5.88	10.55	13.67	14.63											
Principal					32.15	32.15	32.15	32.15	32.15	32.15	32.15	32.15	32.15	32.15	32.15

Total receipt      Rs.471.91 lakhs      Profit in term of seed capital =  $\frac{105.68}{226.39}$   
 =46.70%

Total repayment      Rs.366.23      Profit in term of investment =  $\frac{105.68}{382.00}$   
 (Estimated)      =27.6%

Net profit      Rs.105.68

TABLE 7  
Financial Assessment.

Period	Estimated investment.	Anticipated sale proceeds.	Gross	Reserve for annihilation of capital loan.	Net re-turn rein-vest-ment.	Percentage of net return
1st Year	84.00					
2nd Year	84.00	23.10				
3rd Year	84.00	49.99	471.91	366.23	105.68	27.6%
4th Year	65.00	76.88				
5th Year	65.00	98.57				
		223.37				
Period beyond 5 years	<u>382.00</u>	<u>471.91</u>				

Percentage on seed capital =  $\frac{105.68}{226.39} = 46.70\%$

TABLE 8

PROPOSAL II

Central Revolving Fund Integral Projects.

Schedule of Analysis  
(to be furnished for each project separately)

General 1

Name of organisation.	..	Tamil Nadu Housing Board.
Name of State.	..	Tamil Nadu.
Name/Location of project(Name of..... the nearest town and its popula- tion to be indicated.		Pudukkottai 1.50 Lakhs.
	..	Tiruchi 2.50 Lakhs.
Whether the area is covered by any Master/Interim general plan.	..	Yes. By Interim general Plan
Duration of project.	..	5 years in Two cycles for development.
	..	8 years for Two cycles for repayment.
Total estimated investment.	..	55.00 Lakhs.
Total anticipated return (Gross)	..	67.00 Lakhs.
Net profit anticipated.	..	19.08 Lakhs.
Net seed capital required (Rs. in lakhs)	..	1st Year 12.12 2nd Year 9.63 3rd Year 6.43 4th Year 1.97
		<hr/> 30.15 <hr/>
Plans for future re-investment (rough indication)	Y	Other Major cities and Major Municipalities of the State.

Hand

Present stage of acquisition  
(i.e. whether the land is  
already in possession of the  
State Government or otherwise  
(the time by which it will  
become available)

The land are at the  
disposal of the Tamil  
Nadu Housing Board.

TABLE 8 (Contd..)

Gross Area (Acquired or proposed to be acquired) in Acres.	270 Acres.
<del>Net available area:</del>	
(a) For Community Services (Hospitals, Schools etc.) at 15%.	40 Acres.
(b) For construction of buildings, at 55%	149 Acres.
(c) For Roads and open spaces at 30%	81 Acres.

.....



TABLE 9  
PROPOSAL NO. 2

Land development scheme at Pudukkottai and Tiruchi.

Total extent	..	2700 grounds
Total cost	..	55.00 Lakhs.
Cost per ground	..	Rs.2,000/-

Expenditure chart in Lakhs.

	<u>I Year</u>	<u>II Year</u>	<u>III Year</u>	<u>IV Year</u>	<u>V Year</u>
I Cycle	11.33	11.33	11.33		
II Cycle				10.50	10.50

Revenue Details

Cost per ground	..	Rs.2,000/-
With profit at 10%	..	Rs.2,200/-
Interest to be paid to the Government of India.	..	7%
Management charges at 1%	..	1%
		8%

Period of recovery in 3 years.

.....

TABLE II  
REVENUE CHART

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year
<u>I Cycle:</u>															
Initial Deposit		3.12	3.12	3.12											
Annual Payment			3.62	7.24	10.86	7.24	3.62								
<u>II Cycle:</u>															
Initial Deposit				2.90	2.90										
Annual Payment					3.36	6.72	6.72	3.36							
Total Receipt.		3.12	<del>3.70</del>	<del>13.26</del>	17.12	13.96	10.34	3.36							

TABLE 11: REPAYMENT CHART (Rupees Lakhs)

	I Year	II Year	III Year	IV Year	V Year	VI Year	VII Year	VIII Year	IX Year	X Year	XI Year	XII Year	XIII Year	XIV Year	XV Year
Revenue Receipt		8.12	8.74	13.23	17.12	19.96	10.34	3.36							
Expenditure	11.33	11.33	11.33	11.50	14.50										
<u>Seed Capital:</u>															
Capital Outlay	11.33	3.21	4.59												
Interest	0.79	1.42	1.84	1.97											
	<u>12.12</u>	<u>9.63</u>	<u>6.43</u>	<u>1.97</u>											

REPAYMENT TO THE CORPORATION

Capital.  
Interest

0.79    1.42    1.84    1.97

4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28    4.28

Total Repayment : Rs.48.82 lakhs    Net Profit : Rs. 19.08  
 Total Receipt    . Rs.67.90 lakhs    Profit in terms of Seed Capital :  $\text{Rs.} \frac{19.08}{30.15} = 63.3\%$

Profit in terms of expenditure:  $\frac{19.08}{55} = 34.7\%$

TABLE 12  
FINANCIAL ASSESSMENT

Profit

Period	Estimated Investment	Anticipated sale proceeds.	Gross	Reserve for annali- sation of capital loan.	Net return for reinvest- ment.	Percen- tage of net return.
1st Year	11.33					
2nd Year	11.33	3.12				
3rd Year	11.33	6.74	67.90	48.82	19.08	34.7
4th Year	10.50	13.26				
5th Year	10.50	17.12				
Period beyond 5 years:	55.00	27.66				
		<u>67.90</u>				

Percentage on Seed Capital =  $\frac{19.08}{30.15} = 63.30\%$

TABLE 13: CENTRAL REVOLVING FUND (Integral Projects)

Schedule of Analysis

Part I (General):

(i) Name of Organization	..	TAMIL NADU HOUSING BOARD
(ii) Name of State	..	TAMIL NADU
(iii) Name/Location of Project	..	Single Bed-roomed houses separate sheet enclosed.
(iv) Whether the area is covered by Master/interim General Plan.	..	INTERIM GENERAL PLAN.
(v) Duration of Projects.	..	4 Years.
(vi) Total estimated investment.	..	560 Lakhs
(vii) Total anticipated return.	..	Gross Rs. 842.40 Lakhs
(viii) Net anticipated profit.	..	Rs. 81.24 Lakhs.
(ix) Net Seed Capital required.	..	1st Year Rs.149.80 Lakhs 2nd Year Rs.119.09 Lakhs 3rd Year Rs.109.01 Lakhs 4th Year Rs. 98.23 Lakhs Total = Rs.476.13 Lakhs
(x) Plans for future investment (rough indications).	..	Major cities, Municipalities of Tamil Nadu.

Part II (Land)

DOES NOT ARISE.

1. 700 houses Single bed roomed houses at Kovaipudur  
(plinth area 600 sft.)
2. 80 flats Single bed roomed houses at Nagercoil  
(plinth area 600 s.ft.)
3. 140 flats Single bed roomed flats at Thanjavur  
(plinth area 600 sft.)
4. 100 flats Single bed roomed flats at Udumalpet  
(plinth area 600 sft.)
5. 100 flats Single bed roomed flats at Pollachi  
(plinth area 600 sft.)
6. 80 flats Single bed roomed flats at Srivilliputhur  
(plinth area 600 sft.)
7. 52 flats Single bed roomed flats at Kavundampalayam  
(plinth area 600 sft.)
8. 100 flats Single bed roomed flats at Krishnagiri  
(plinth area 600 sft.)
9. 36 flats Single bed roomed flats at Kancheepuram  
(plinth area 600 sft.)
10. 50 flats Single bed roomed flats at Kodaikanal  
(plinth area 600 sft.)
11. 100 flats Single bed roomed flats at Tuticorin  
(plinth area 600 sft.)
12. 80 flats Single bed roomed flats at Manaparai  
(plinth area 600 sft.)
13. 80 flats Single bed roomed flats at Usilampatti  
(plinth area 600 sft.)
14. 80 flats Single bed roomed flats at Dindigul  
(plinth area 600 sft.)

Contd....

18. 80 flats Single bed roomed flats at Thuraiyur (plinth area 600 sft.)
19. 80 flats Single bed roomed flats at Chidambaram (plinth area 600 sft.)
20. 40 flats Single bed roomed flats at Koilpatti (plinth area 600 sft.)
21. 44 flats Single bed roomed flats at Khajamalai (plinth area 600 sft.)
22. 36 flats Single bed roomed flats at Salai Road (plinth area 600 sft.)
23. 50 flats Single bed roomed flats at Palsyamcottai (plinth area 600 sft.)
24. 60 flats Single bed roomed flats at Ramanathapuram (plinth area 600 sft.)
25. 44 flats Single bed roomed flats at Virudhacahalar (plinth area 600 sft.)
26. 50 houses Single bed roomed houses at Madurai (plinth area 600 sft.)
27. 50 houses Single bed roomed houses at Tiruchi (plinth area 600 sft.)
28. 160 flats Single bed roomed flats at Cuddalore (plinth area 600 sft.)
29. 20 flats Single bed roomed flats at Vellore (plinth area 600 sft.)
30. 96 flats Single bed roomed flats at Tiruppur (plinth area 600 sft.)
31. 80 flats Single bed roomed flats at Ooty (plinth area 600 sft.)

TABLE 15: Proposal for the construction of Single Bed-roomed Houses/Flats = 4000 Nos. at Rs.14,000/- per unit.

Statement showing the programme:-

Rupees in Lakhs					
Year	1st Year	2nd Year	3rd Year	4th Year	Total
Physical	1000	1000	1000	1000	4000
Financial in lakhs	140 lakhs	140 lakhs	140 lakhs	140 lakhs	560 lakhs

Cost of each house	..	Rs.28,000
Element of profit 10%	..	Rs. 2,300
		Rs.30,300

Interest to paid to Government of India	..	7%
Management charges @ 1%	..	1%
		8%

Period of recovery = 10 Years.

Details of revenue enclosed.



TABLE 1.13. (1000 HOUSES)

Period	Number of Houses	Estimated cost per building	Pre-determined sale price
	Single bed roomed	Single bed roomed	Single bed roomed
1. 1st Year	1,000	14,000 per each	15,400/-
2. 2nd year	1,000	14,000 per each	15,400/-
3. 3rd year	1,000	14,000 per each	15,400/-
4. 4th year	1,000	14,000 per each	15,400/-
Total	4,000		

TABLE 17: DETAILS OF INVESTMENT IN THE FIVE YEAR PERIOD - RUPEES IN LAKHS

	I Year	II Year	III Year	IV Year	V Year	VI Year	VII Year	VIII Year	IX Year	X Year	XI Year	XII Year	XIII Year	XIV Year	XV Year	Total
Receipts		38.50	55.71	72.92	90.13	68.84	68.84	68.84	68.84	68.84	68.84	68.84	51.63	34.42	17.21	842.40
Expenditure	140.00	140.00	140.00	140.00												560.00
Additional Outlay (Seed capital including interest to Govt. of India)	149.80	119.09	109.01	98.23												476.13
Repayment to Govt. of India	9.80	17.79	24.72	31.15	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	761.16
		Interest only				Interest & Principal										
Percentage of profit on Seed capital																$\frac{81.24}{476.13} \times 100 = 17.06\%$
On Expenditure																$\frac{81.24}{560} \times 100 = 14.51\%$

SCHEDULE 13. (1000 HOUSES)

Period	Number of houses Single bed roomed	Estimated cost per building Single bed roomed	Pre-determined sale price Single bed roomed
1. 1st Year	1,000	14,000 per each	15,400/-
2. 2nd year	1,000	14,000 per each	15,400/-
3. 3rd year	1,000	14,000 per each	15,400/-
4. 4th year	1,000	14,000 per each	15,400/-
Total	4,000		

TABLE 17: DETAILS OF FINANCIAL PERFORMANCE - RUPEES IN LAKHS

	I Year	II Year	III Year	IV Year	V Year	VI Year	VII Year	VIII Year	IX Year	X Year	XI Year	XII Year	XIII Year	XIV Year	XV Year	Total
Receipts		38.50	55.71	72.92	90.13	68.84	68.84	68.84	68.84	68.84	68.84	68.84	51.63	34.42	17.21	842.40
Expenditure	140.00	140.00	140.00	140.00												560.00
Additional Outlay (Seed capital including interest to Govt. of India)	149.80	119.09	109.01	98.23												476.13
Repayment to Govt. of India	9.80	17.59	24.72	31.15	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	67.79	761.16
		Interest only				Interest & Principal										
Percentage of profit on Seed capital																$\frac{81.24}{476.13} \times 100 = 17.06\%$
On Expenditure																$\frac{81.24}{560} \times 100 = 14.51\%$

TABLE 13: FINANCIAL PROJECTIONS (1955-56 to 1960-61)

Period	Estimated investment in single record machines.	Anticipated returns.	PROFIT			
			Revenue Gross.	Reserve for amortization of loan.	Net return of investment.	Percentage of seed capital.
1st year	140 lakhs					
2nd year	140 lakhs	38.50	38.50			
3rd year	140 lakhs	55.71	55.71			
4th year	140 lakhs	72.92	72.92			
Beyond four years.	..	675.27	675.27			
Total	560 lakhs		842.40	761.16	81.24	14.51%
						17.06%

TABLE 19: CENTRAL REVOLVING FUND

(Integral Projects)

Schedule of Analysis.

Part I. (General):

i. Name of Organisation	.. Tamil Nadu Housing Board.
ii. Name of State	.. Tamil Nadu
iii. Name/Location of Project.	.. Double bed-roomed houses separate sheet enclosed.
iv. Whether the area is covered by Master/Interim General Plan.	.. Interim General Plan.
v. Duration of Projects.	.. 4 Years.
vi. Total estimated investment.	.. Rs.739.20 Lakhs.
vii. Total anticipated return.	.. Gross Rs.1,111.97 Lakhs.
viii. Net anticipated profit.	.. 107.36 Lakhs.
ix. Net Seed Capital required (for 1 Cycle).	.. 1st Year 197.74 Lakhs. 2nd Year 157.20 Lakhs. 3rd Year 143.89 Lakhs. 4th Year <u>129.87 Lakhs.</u> 628.50 Lakhs.
x. Plans for future investment (rough indications)	.. Major Cities, Municipalities of Tamil Nadu.

Part II (Land)

DOES NOT ARISE.

TABLE 20: TWO BED ROOMED FLATS/HOUSES.

1.	16 flats	Three bed roomed at Elliots Beach (Plinth area 1000 sft.)
2.	280 flats	Two bed roomed at Elliots Beach (Plinth area 800 sft.)
3.	800 flats	Two bed roomed flats at Ashok Nagar (Plinth area 800 sft.)
4.	200 flats	Two bed roomed at Anna Nagar (Plinth area 800 sft.)
5.	1000 houses	Two bed roomed (Plinth area 800 sft.) At Anna Nagar, Indira Nagar, Sastri Nagar, Elliots Beach & Ashok Nagar.
6.	270 houses	Two bed roomed houses in Korattur & North Madras (Plinth area 800 sft.)
7.	30 houses	Two bed roomed houses in Coimbatore (Plinth area 800 sft.)
8.	24 houses.	Two bed roomed houses at Madurai (Plinth area 600 sft.)
9.	30 houses.	Two bed roomed houses at Tiruchi (Plinth area 800 sft.)

TABLE 21: PROPOSAL IV.

Construction of Two Bed-roomed houses.

Total No. of houses= 2640 at Rs.28,000/- Unit.

No. :	Year :	I Year :	II Year :	III Year :	IV Year :	Total :
:	Programme :	:	:	:	:	:
1. Physical		660	660	660	660	2,640
2. Financial in lakhs.		184.80	184.80	184.80	184.80	739.20

Cost of each house	..	14,000.00
Element of profit @ 10%	..	1,400.00
		<u>15,400.00</u>
Interest to be paid to Govt. of India		7%
Management charges at 1%		1%
		<u>8%</u>
	Total	

Period of recovery .. 10 years

Details of Revenue statement enclosed.



TABLE 2: PART III. PROGRAMME OF CONSTRUCTION OF HOUSES.  
(2,610 houses)

Period	Number of houses Two bed roomed	Estimated cost per building Two bed roomed	Predetermined sale price Two bed roomed
1st year	620	28,000 per each	30,800/-
2nd year	630	28,000 per each	30,800/-
3rd year	660	28,000 per each	30,800/-
4th year	300	28,000 per each	30,800/-
Total	2610		

TABLE 23 FINANCIAL STATEMENT

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	Total
	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	Year	
Revenue Receipt		50.82	73.54	86.25	118.97	90.87	90.87	90.87	90.87	90.87	90.87	90.87	68.15	45.43	22.72	1111.91
Expenditure	184.80	184.80	184.80	184.80												739.20
Additional outlay:																
(Seed capital including Interest to Govt. of India	197.74	157.20	143.83	129.67												628.50
Repayment to Govt. of India	12.04	23.22	32.63	41.12	89.48	89.48	89.48	89.48	89.48	89.48	89.48	89.48	89.48	89.48	89.48	1004.71
	Interest only				Interest & Principal											

Percentage of profit on seed capital  $100 \times \frac{107.26}{628.50} = 17.07\%$

Percentage of profit on expenditure  $100 \times \frac{107.26}{739.20} = 14.51\%$

TABLE 24. FIVE YEAR ASSESSMENT (RUPEES MILLION)

Period	Estimated investment to be provided, houses.	Anticipated return	Profits			
			Gross Revenue	Reserve for amortization of capital loan.	Net return for reinvestment.	Percentage of net return to seed capital.
1st Year	184.80					
2nd Year	184.80	50.82	50.82			
3rd Year	184.80	73.54	73.54			
4th Year	184.80	96.25	96.25			
Beyond four Years	..	891.36	891.36			
Total	739.20 lakhs		1111.97	1004.71	107.26	14.51% 17.07%

# ROLE PLAYED BY MYSORE AND OTHER STATE HOUSING BOARDS IN ACTIVATING HOUSING AND BUILDING ACTIVITY.

BY

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The paper dwells on the housing problem in context of rapid urbanization and stagnant rural economies. It is estimated that nearly Rs.12,000 crores are required for solving urban housing and almost a similar amount for rural housing. The paper discusses necessity of having Housing Boards and their advantages in context of solving and implementing housing programmes.

## 1. Introduction

Housing is one of the basic necessities of the mankind, and it ranks next only to food in human life. In a Social Welfare State, providing decent accommodation has become one of the responsibilities of the State Governments. Housing has a special appeal to the common man. Every person, however, poor he may be likes to own a house of his own and a Government that can provide him a reasonably good shelter or house earns his gratitude and appreciation. Before we deal with the role played by the Housing Boards for activating the housing construction activity, . . . will have to know the magnitude of the problem of housing.

## 2. Population and Housing

2.1 The rapid urbanisation that has been taking place in this country due to growing industrialisation has intensified the urban growth from 3% to 8% per annum. The current forecast of urban population indicates that even on a conservative estimate, the urban population which was 80 million in 1961 is likely to increase to 112 by 1971. In 1961, there were 100 towns in the population range of one lakh to five lakhs. This number is likely to go up to 133 by 1981. Towns in the range of 5 lakhs to one million which were only 6 in 1961 are likely to increase to 37 in 1981. Cities in the range of one million to 5 millions will increase from 7 to 8 in 1981 and some more cities like Bombay and Delhi will have a population exceeding 5 millions. The shortage of housing in the country in the urban areas is estimated as under:

India	1951	...	28 lakhs units.
	1961	...	93 lakhs units.
	1969	...	119 lakhs units.
Mysore State:	1967	...	5.50 lakhs units.
Bangalore Metropolitan City	1967	...	1.20 lakhs units.

Thus it can be seen that there is a progressive shortage of housing units to meet the rapid growth of urban population. Even taking the cost of one unit at Rs.10,000 we will require Rs.12,000 crores to solve the housing problem in the urban areas of the country itself.

2.2 The problem of housing in rural areas is also as acute as in the urban areas. Nearly 75% of the population in the country live in rural areas. It is estimated that only 2% of the population living in rural areas live in pucca houses and the remaining population live in thatched houses and semi-permanent buildings. As already stated, to build houses for the people who are houseless in the urban areas we require Rs.12,000 crores and to build houses in the rural areas we require more than another Rs.12,000 crores.

2.3 The Central and State Governments had to face this enormous and huge problem, as housing had not received any attention from the Government under foreign rule for a century and a half. So the State Governments examined this question and some of the State Governments thought it best to establish statutory Housing Boards to meet the challenge of housing.

### 3. Necessity to have Housing Boards

3.1 The Housing problem was being tackled either by a separate Housing Department or by the Public Works Deptt. before the Housing Boards came into existence and the problem of housing could not be effectively tackled as the Government Departments will be involved in other important works in the Government.

3.2 The Governments, due to obvious reasons, always gave low priority for housing in their plans and allotted meagre sums for housing. Even the meagre amount provided for housing in the budget was not spent fully before the end of the financial year and the amount used to lapse.

Hence State Governments decided to establish special autonomous statutory bodies so that they can tackle the problem independently.

4. The advantages of having Housing Boards are:

- (i) There will be a separate, independent body created by the Government, which can look after the Housing work and which can devote its full time and energy and try to solve the housing problem.
- (ii) The Housing Boards can borrow from the Banks and the Life Insurance Corporation of India and thus augment the finances required for housing in addition to the plan funds allocated by the Government.
- (iii) The Housing Boards can go to the open markets and raise "Debenture loans" on the guarantee of the Government.
- (iv) The unspent amount in the Housing Boards will not lapse at the end of the year and it will be there for spending on the unfinished works.
- (v) The Housing Boards being special agencies can do "Research on building materials, on methods of construction of cheap houses etc."

#### 5. Schemes implemented by Housing Boards

5.1 The Housing Boards are Statutory Bodies and they are all autonomous. The Housing Boards in various States have been given the powers of not only land acquisition and development of sites but also build houses and allot them on hire purchase basis and on rental basis. They also give loan to persons who own sites.

5.2 The following are the various schemes which the Housing Boards are implementing in the various States:-

1. Low Income Group Housing Scheme.
2. Middle Income Group Housing Scheme.
3. Integrated Subsidised Housing Scheme:-
  - (a) Subsidised Industrial Housing Scheme and
  - (b) Subsidised Rental Housing Scheme.
4. Rural Housing Scheme.
5. Land acquisition and development scheme.
6. Plantation Labour Housing Scheme.
7. Slum Clearance Scheme.

### 5.2.1 Low Income Group Housing Scheme

Under this scheme Housing Boards can build houses and sell them on lease-cum-sale basis to persons whose annual income is less than Rs.7,200. The loan assistance is limited to 80% of the cost of the construction of value of site subject to a maximum of Rs.12,500. This ceiling is now being proposed to be revised to Rs.15,000 in view of rising costs of construction and materials. Individuals also are granted cash loans for constructing houses, if they already own developed plots.

### 5.2.2 Middle Income Group Housing Scheme

Under this scheme, loans are granted to persons whose annual income is above Rs.7,200 but below Rs.15,000. The financial assistance is 80% of cost of construction and value of site subject to the maximum of Rs.25,000. Individuals are also granted cash loans for constructing houses if they already own developed sites.

### 5.2.3 Integrated Subsidised Rental Housing Scheme

(i) Subsidised Industrial Housing Scheme: Under this Scheme, houses are constructed by the Mysore Housing Board for allotment on rental basis to industrial workers within the meaning of section 2(L) of the Factories Act 1948, employed in Factories paying Income tax to the Government of India. The upper wage limit for allotment of houses is Rs.350 per month. The minimum accommodation to be provided is 356 sq.ft. plinth area. The ceiling costs are prescribed by the Government of India from time to time and the Mysore Housing Board is allowed 50% subsidy in the ceiling cost and balance of 50% is treated as loan. This scheme is extended to employers and cooperative societies of Industrial workers also who desire to build houses for their bonafide employees and members of Industrial workers Co-operative Societies. In such a case the pattern of assistance is as follows:-

	<u>Loan</u>	<u>Subsidy</u>	<u>Own contribution.</u>
1) Employers	50%	25%	25%
2) Cooperative of Industrial workers	65%	25%	10%
3) Factories on Cooperative basis	65%	25%	10%

(ii) Subsidised Rental Housing Scheme for economically weaker section of community

Financial assistance as per prescribed ceiling costs are given by the Central Government for building houses for the economically weaker sections of the community viz., persons whose annual income is less than Rs.4,200. The pattern of assistance is the same as that of Subsidised Industrial Housing Scheme. But this scheme is not applicable to either employers or others.

5.24 Rural Housing Scheme

(i) Under this scheme, loan to an extent of Rs.3,000 is given to individuals in selected villages, preference being given to villages where there have been fire havocs to build new villages, to house people from the submerged villages and of villages which will be subject to frequent flood havocs.

(ii) Grant is given to Panchayat for providing drainage and sanitary facilities.

(iii) Layouts are prepared for villagers.

(iv) Free sites will be provided to landless agricultural labourers.

5.25 Land Acquisition and Development Scheme: Under this scheme, the Mysore Housing Board is the Central agency for disbursement of loans to City Improvement Trust Boards and local bodies. The maximum period of repayment is 10 years, and the rate of interest is 6½% or at any other rate the Government may fix from time to time. This loan is granted to the Trust Boards and Local bodies for acquisition and development of land and sell it to prospective buyers on "no profit and no loss" basis.

5.26 Plantation Labour Housing Scheme: This scheme is initiated for the benefit of the Plantation Labour. The ceiling cost is Rs.3,200 per houses. The Central loan admissible is 50% and subsidy is 25%. The balance of 25% is to be met by the Planters. Assistance is given under this scheme where the planted area of the plantation is not less than 25 acres; and the total loan account that may be sanctioned to a planter does not ordinarily exceed the amount admissible for the construction of houses for 8% of the total number of the resident workers employed on the plantation on an average during the proceeding financial year. The loan carries interest



at 6 $\frac{1}{2}$ % or at any other rate the Government may fix from time to time and is repayable in 25 annual equal instalments. Penal interest is charged at 11% on overdue instalments.

**5.2.7 Slum clearance Scheme:** The Scheme contemplates grant of financial assistance for Slum improvement and Slum Clearance. The object of the scheme is to re-house the slum dwellers by providing minimum standards of accommodation at low rent. It provides not only for construction of pucca houses but also open developed plots with one foot high platform with independent lavatory. Pucca bath and washing platform connected with drains and taps. Such colonies will be provided with wide roads, water supply, street lighting, drainage and sewerage.

## 6. Role played by the Housing Boards for activating the Housing Construction Activity.

Before the Housing Boards came into existence, there was no single unified organisation to tackle the Housing problem. The following paras provide a view of part played by the Housing Board in activating the housing construction activity

### 6.1 In building more Houses

6.1.1 If we look at the work done by the various Housing Boards after they came into existence, we see that the Housing Boards have really done a very good job in tackling the housing problem in the country.

6.1.2 In Bombay City itself, the Maharashtra Housing Board has constructed more than a lakh and twenty thousand tenements and it is estimated that more than 1/7 of the population in Bombay City live in the houses constructed by the Maharashtra Housing Board. But for the organised, effective and efficient work done by the Maharashtra Housing Board, the housing problem in Bombay City would have been very acute. Similarly, the Gujarat Housing Board has done very good work in building thousands of houses for workers in Ahmedabad City. The Tamil Nadu Housing Board has done excellent work in building more houses in Madras and the other four important district headquarters. The Mysore Housing Board has constructed 26782 houses and have allotted them either on hire purchase basis or on rental basis. We have given cash loans to the tune of Rs.6.23 crores for construction of houses.

6.13 The vast organisation of the Board will also be at the service of the rural folks. Already a Scheme for construction of houses for teachers and other low paid employees of the Government has been approved. Under this scheme, the Board has to spend 15 millions of rupees, every year and to cover at least two villages in every taluka and construct atleast 6 houses in each village.

6.14 Hence, taking the magnitude of the work done by the Housing Boards they have done really very good work. As already stated earlier, the following are the various Schemes that are being formulated by the Govt. of India:-

- (i) Low Income Group Housing Scheme;
- (ii) Middle Income Group Housing Scheme;
- (iii) Integrated Subsidised Housing Scheme;
- (iv) Rural Housing Scheme;
- (v) Plantation Labour Housing Scheme; and
- (vi) Slum Clearance Scheme.

The Maharashtra Housing Board is implementing all these Housing Schemes except the Plantation Labour Housing Scheme and Rural Housing Scheme. The Mysore Housing Board is implementing all the Housing Schemes. The Tamil Nadu Housing Board is also implementing many of the Schemes. But in the States where there are no Housing Boards, the Labour Department is implementing the Plantation Labour Housing Scheme and the Industrial Housing Scheme and the Public Works Department and the Housing Department are implementing the other Schemes. The work done by them is very meagre. In the States where there are Housing Boards they are able to implement all the Housing Schemes. The Plan funds and the loan received from the Life Insurance Corporation are fully spent and some of the Housing Boards are really in financial difficulties/more funds are not available.

Las

6.2 Extending Housing Activity to various parts of the States

6.21 In the Mysore State, the Mysore Housing Board has been able to extend its activities to all the District headquarters and all the Taluk Headquarters and other urban areas in the State.

6.22 The Maharashtra Housing Board and the Andhra Pradesh Board are also extending their activities to the other areas of the State. In Tamil Nadu State, the Tamil Nadu Housing Board has its constructional activities in 4 or 5 District Headquarters. Hence, the Housing Boards have been extending their activities to the other urban areas in the State wherever the Housing problem is needed to be solved.

### 6.3 Getting more finances

6.3.1 The finances for the Housing Schemes in the various states come from:

- (i) The plan funds allocated in the State Budgets;
- (ii) Loans from Life Insurance Corporation, distributed by the Government of India to the various States.

The Housing has always received the lowest priority in the budget of the various State Governments as in their opinion there are some more pressing urgent works for which they will have to spend money. Hence each State Government has given the lowest priority in allocating the money for housing and it is always very meagre. It ranges from 5 lakhs to 30 lakhs.

6.3.2 The Life Insurance Corporation of India is giving Rs.14.00 crores of rupees to the Central Government to be distributed to the various State Governments. This amount is not sufficient to meet the requirements of the State and the Government of India finds it difficult to distribute this meagre amount among the various State Governments.

6.3.3 As stated above, the Plan funds and the loan amount received from Life Insurance Corporation of India are meagre and they were not at all sufficient to meet the requirement of the Housing Boards. The only course open to the Housing Boards was to go in for raising public loans and all the Housing Boards have got powers, as per provisions of their Acts to go in for Debenture loans and borrow money from the public.

6.3.4 For the first time in India, in 1968 the Mysore Housing Board went in for debenture loan for Rs.2.00 crores and it was over subscribed. In 1969-70, the Mysore Housing Board floated a debenture loan of Rs.6.00 crores which was over subscribed to the extent of Rs.15.33 crores. It could retain only Rs.600 lakhs as per the directions of the Reserve Bank of India. This year also, the Mysore Housing Board is floating a debenture loan. The Maharashtra, Tamil Nadu and Gujarat Housing Boards have floated debenture loan last year and this added to the finances of the Housing Boards. Thus the Housing Boards have been able to get funds in the open market so that more number of houses can be constructed.

### 6.4 In organising for getting building materials

6.4.1 Problem of supply of adequate building materials at reasonable cost is being faced by all the State Housing Boards

The problem of getting good quality of bricks has been faced by all the Housing Boards. The Mysore Housing Board has erected a semi-mechanised brick plant and has also applied for import permit for getting mechanised brick plant from Rumania. The Tamil Nadu Housing Board has been able to go in for the manufacture/quality of bricks.

6.4.2. The Tamil Nadu Housing Board has got a wood working unit and it has been able to get good quality of doors and windows. The Mysore Housing Board has also decided to have a wood working unit of its own. The production of light weight is also being considered by some of the Housing Boards.

6.4.3 One Semi-mechanised brick plant has already been put up by the Mysore Housing Board at Hoskote 14 miles from Bangalore. It has just started production and we are sure that with the commissioning of this plant, we will have quality bricks for the construction of houses by the Mysore Housing Board. This will also indirectly result in better quality production and around will help in construction of better houses than before. The Government have also approved a Scheme of the Mysore Housing Board for the establishment of a fully mechanised brick plant at Yelahanka, 10 miles from Bangalore. In this connection we have to express our gratitude to the National Buildings Organisation for giving us assistance in getting through this project. We hope to manufacture 40 million high strength bricks a year for use on our Multi-storeyed constructions to minimise the use of steel and cement to the extent possible. We are sure that this hope will be a reality before long.

## 6.5 Land Acquisition and Development

6.5.1 Before the Housing Boards came into existence there were only development authorities such as City Improvement Trust Boards and Town Planning authorities in major cities. There were no agencies to undertake the development of towns in other places.

6.5.2 The Mysore Housing Board has filled up this gap. The Government of Mysore have taken a decision that the Housing Board should develop a complete ring town at Yelahanka from the acquisition of land to the formation of layouts, preparation of sites for houses, construction of houses and provision of other civic amenities. We have already instituted acquisition of 1,500 acres of land for this purpose. The housing has of late, its own Acquisition Cell under a Deputy Commissioner to expedite acquisition. A layout is also under way for a modern town. This is a very important work that has been taken up by the Mysore Housing Board.

## 6.6 Getting better designs

6.6.1 As the Housing Boards have appointed architects of their own, the monotonous and stereo typed designs of the houses have been changed in the various Housing Boards and in the Mysore Housing Board, we had called for competitive designs for the plans. I am happy to say that the result was very encouraging and now we have adopted a few new designs and plans which have given a new look to our layouts and has attracted the attention of the public who are coming in large number for allotment for our houses. In some places the demand is so great that we are finding it very difficult to allot the houses we have constructed without further increasing their number.

6.6.2 The developing of housing construction particularly in the Bangalore City had to be considered from the point of view of the rapid growth in the population of the city on account of industrial revolution. The services like transport, water supply and electricity could not keep pace with this growth. The usual methods of preparation of layouts and the houses had to be re-oriented to accommodate their development. We thought of construction of multi-storeyed buildings particularly for the Subsidised Integrated Housing Scheme. The Mysore Housing Board has now started construction of four storeyed buildings by making use of local materials. In other big cities of the State also, we are proposing to adopt multi-storeyed buildings under these schemes. If we receive good response from from the public, we want to take up such buildings in other towns of the State. The one difficulty that we have to face about this was the poor quality of locally available materials particularly bricks, steel and cement and they have become very expensive and scarce and hence its use had to be restricted. The bricks were not upto the required strength to be used as structural number for multi-storeyed construction.

7. The various measures undertaken by the Housing Boards to activate the housing construction activity in the State particularly with reference to the Mysore Housing Board have been dealt with above. The other State Governments in the country would also take decision and establish Housing Boards wherever there are no Housing Boards, so that the housing activity can be tackled effectively by the Housing Boards.

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# Pattern and type of construction activity in Andhra Pradesh

by  
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## Summary

(In the context of huge housing shortage in Andhra Pradesh, the paper brings out the need for mass construction and describes the work done by Andhra Pradesh Housing Board. For achieving this, importance of standardisation has been emphasised. Keeping in view the need for low cost houses in large numbers, acquisition of land at the outskirts by building societies and institutions has been suggested particularly when land prices are soaring high in Central Areas. Some suggestions to reduce construction costs have been made. It also points out the need for providing accommodations to migrants to rural settlements in developed areas to arrest out migration to urban agglomerations)

## 1.0 Introduction

1.1 With the increasing trend of population explosion throughout the world the housing problem for the increased masses did also mount to greater heights and Andhra Pradesh is no exception for the same. The Population of Andhra Pradesh which was originally 3 crores has now crossed the 4 crores mark, and the problem of accommodation for the populace correspondingly grew acute. As the per capita income of the individual citizen did not increase in consonance with the swell of population the housing riddle assumed large proportions and a situation arose challenging the Engineers, Builders, Architects and other intellectuals of the society to seek some solution for the overgrowing problems. It is at this juncture that has become indispensable to pool the various techniques and modern methods in the building construction proposed by various research institutions in order to cut down the traditional cost of building construction.

1.2 To meet the demand of the situation different types of buildings to suit the various strata of society are coming up. The Andhra Pradesh Government // Employees, depending on their pay range. The Plans for different types of quarters for the // pay ranges have been evolved and standardised to // variou

// has also approved scientific type of buildings for Government

Contd....2/-.

facilitate quick construction of the quarters. Most of the quarters for the staff of E. S. I. Hospitals in the State during the period 1964-68 were constructed on the basis of these standardised plans.

1.3 The Andhra Pradesh State Housing Board is also constructing buildings for different income groups and is allotting them to the public through hire purchase system. This type of group construction of buildings on large scale will give good results qualitatively as well as quantitatively. In this system the general layout of these buildings with reference to roads, water supply, electricity, sanitary arrangements etc., will be pre-planned and the amenities for the groups of buildings can be provided very easily in a systematic manner. On the other hand if individuals construct their own houses there is every likelihood that expert supervision may lack and the quality of the structures will suffer severely rendering the buildings dangerous to live in after a few years. Generally when private buildings are constructed the owners mostly leave the building construction in the hands of masons and seldom employ a qualified Engineer for the task as they cannot afford to do so exclusively for the sake of one or two buildings. This is why we generally see that frequently houses collapse after a heavy down pour of rain.

Generally, buildings, constructed without a stipulated layout and where soundness of structure is overlooked, will be the first targets during rains. In fact the havoc caused by torrential rains is two fold, one by way of surging floods inundating vast areas washing away life and property. The other by collapsing houses which are not sound and strong and thereby killing all the inhabitants which is awesome and pathetic to behold. These buildings when they collapse damage the adjoining fairly strong houses also due to impact. In this connection it is to be stressed that Municipalities should formulate and implement strict rules and see that the private buildings are constructed maintaining quality and soundness under the supervision of a qualified Engineer, much to the safety of the structure and more to the safety of the public at large.

1.4 In this reference it appears always better to promote the interest of citizens to construct their houses through the medium of "house building societies" or State Housing Boards to facilitate easy, sound and systematic construction of houses which are not generally possible when left to the individual citizens. To attract the attention of the average citizens it is for the engineers and builders to pool their vast experience and modern methods of building construction to cut down the traditional cost in construction while simultaneously paying due heed for the quality and soundness.

## 2.0 Type of Construction Activity in Andhra Pradesh.

2.1 The Andhra Pradesh State Housing Board made some strides in this direction to alleviate the mounting housing problem. At present the activities of the Housing Board are confined only to the twin cities of Hyderabad and Secunderabad. From the year 1970-71 onwards the house building activities of the Board will be extended to districts also. The Board undertook a number of housing schemes since the year 1960 under various categories such as (1) Low income group (2) Middle Income group (3) Subsidised Industrial Housing Scheme; (4) Slum Clearance Scheme; (5) Rental Housing Scheme; (6) Low Cost Housing Scheme (7) schemes financed by Andhra Pradesh Housing Board. Houses constructed on Low Income Group and Middle income Group Housing Schemes are notified to the public by the Housing Board as and when they are completed for occupation. Applications are invited and houses allotted to the public giving due consideration to (1) the age of the applicant; (2) income of the applicant; (3) number of children; (4) number of times he applied for the house; (5) number of years he is staying. These houses are allotted to the public on hire-purchase system i.e., the allottee will pay a specified sum as advance in the first instalment and the balance is paid spread over a period of nearly 20 years. Until now the Andhra Pradesh Housing Board has been following the above procedure while allotting the houses to Public. But in future the Housing Board proposes to dispose of the constructed buildings on lottery system alone and the merits and demerits of this system are to be waited and seen.

2.2 The Andhra Pradesh Housing Board constructed 4729 houses since inception from July 1960 to March 1970 under various categories as follows:-

Name of Scheme	<u>No. of houses constructed</u>
1) Low Income Group Housing Scheme with the annual income of individual upto Rs. 7,000/-	2,661
2) Middle Income Group Housing scheme with annual income of individual from Rs. 7,200 to Rs. 12,000/-.	307
3) Subsidized Industrial Housing Scheme	160
4) Slum Clearance Scheme	200

Contd.....4/-.



5) Rental Housing Scheme.	184
6) Low Cost Housing Scheme.	613
7) Schemes financed from Andhra Pradesh Housing Board.	104
8) Total	<u>729</u>

Under each category again different types such as A, B, C were constructed depending on the necessity.

2.3 The specifications of house construction under various Social/Schemes are discussed below:-/Housing

(1) Low Income Group:-

Under low income group one roomed tenements called C/type were constructed, containing one multi-purpose room, kitchen, verandah, bath and water closet, plinth area being 360 sqft., costing Rs. 3,045/- in total. The plinth area rate including all amenities works out to Rs. 82.35/sqft. Under the low income group two roomed tenements called B/type also were constructed containing two rooms, dining room, kitchen, bathroom, water closet and verandah. The plinth area is 791 sqft and the cost of the building including all amenities is Rs. 17,960/- and the plinth area rate works out to Rs. 22.63/sqft., including all amenities.

(2) Middle Income Group

The middle income group housing consist of 3 roomed tenement comprising of 2 bed rooms, one drawing room, one dining room cum-verandah, one kitchen, 2 bath rooms, 2 water closets, one front verandah and one store room. The plinth area is 1240 sqft and the cost of the building including all amenities is Rs. 23,390, and the plinth area rate works out to Rs. 19.10/sqft.

(3) Low Cost Houses

Low Cost Houses were also constructed of total plinth area 3 sq. ft. at a plinth area rate of Rs. 10.00/sqft including all amenities consisting of a living room (17'-3" x 9'-0"), kitchen (8'-0" x 6'-0"), dining-cum-verandah (8'-6" x 6'-4½"), bath room (4'-0" x 4'-0"), water closet (3'-0" x 4'-0").

Obviously the cost of construction is strikingly very low and can easily attract the attention of an ordinary citizen to come forward to secure the house instead of resorting to construct the house himself. The following specifications were adopted.

- FOUNDATIONS : Random rubble masonry in clay.
- BASEMENT : Coursed rubble stone masonry in clay.
- SUPERSTRUCTURE : Brick masonry in cement mortar 1:10
- ROOF SLABS : Precast slabs in R. C. C. 1:2:4 in bits of 9'-0" x 2'-0"

3" thick at ends and 2" at centre with a camber of 1" given at centre reinforced with 10 mm dia rods at 5½" crs were lifted by man power and placed in position over the living room, dining and kitchen. The ends of the bit slabs were so shaped to give a 'V' shape in final assemblage and weld mesh fabrics were placed in the 'V' shape and the gap was treated with cement mortar 1:4 and top finished in the shape of a curvature to make it impervious by draining away rain water. The slabs were given a slope to easily drain off rain water and the slabs were designed for no access. Regarding roof slabs (Fig 1) over bath room and water closet rooms of 4'-0" x 4'-0" and 3'-0" x 4'-0" size plain cement concrete slabs 3" thick with a camber of 1" to 1½" given at centre just to resemble a shell roof were adopted cutting down the cost of slabs much to the advantage.

For lintels over doors and windows flat arches in brick 6" thick in C.M. 1:3 were adopted instead of R. C. C. lintels. Country wood was employed for doors and windows.

Flooring was done in 3" thick C. C. 1:6:12 plastered over with ¾" thick C.M. 1:6 and thread lined. Plastering to walls both inside and outside was done in C.M. 1:6 1/2" thick and white washing was done to walls after plastering.

To cut down the cost of low cost houses the Housing Engineer has suggested some more points to be carried out in future.

- 1) width of basement in R.R. in clay to be reduced from 18" to 13½" to carry 9" superstructure walls.
- 2) The present wall thickness which is 9" between the kitchen and verandah is to be reduced to 4½" brick wall.

- 3) Interior plastering of the rooms can be done in C.M. 1:8  $\frac{1}{2}$ " thick instead of C.M. 1:6  $\frac{1}{2}$ " thick now adopted.
- 4) Wooden frames for doors, windows and ventilators can be replaced by R.C.C. frames which will result in economy of cost.
- 5) Brick jully concrete can be adopted for flooring instead of C.C. 1:6:12 now adopted.
- 6) Precast slab units can be manufactured on large scale by establishing men and necessary equipment and employing light weight cranes for lifting operation of slab units instead of utilising man power for the above operations. This will surely result in greater economy in cutting the cost of construction still further.
- 7) 9" thick superstructure walls can be constructed in lime mortar instead of cement mortar 1:10.

If all the above mentioned suggestions are implemented the cost of construction of the low cost housing will work out far below Rs.10/sft including all amenities.

#### (4) slum Clearance

Under slum clearance schemes many of the old huts, unhygienic old buildings which were either rendered inhabitable and dangerous to live in and old buildings which were not constructed according to layout were all acquired in Hyderabad city, demolished and reconstructed as per the layout approved by the Town Planning and Municipal Corporation providing all amenities such as new Roads, Water Supply, Electricity, Community Hall, Play Grounds, Schools etc.

#### (5) Brahmapuri Housing scheme At Kukatpalli:

The Andhra Pradesh Housing Board proposed to construct a satellite township in Kukatpalli area of Hyderabad on a gigantic scale. A land of 5000 to 6000 acres was already acquired for the township to be erected and most of the earthen roads were formed already in that area. This will surely constitute a tremendous step towards ameliorating the housing problem to some extent in the twin cities.

### 3.0 Suggestions for stepping up House Construction Activity.

3.1 Generally it appears that the main factor that obstructs and retards the house building activity is the availability of land and its enormous costs. In the suburbs of this twin cities most of the land for the house building activity was acquired at a cost of Rs. 2.75 to Rs. 3 per square yard. In the city proper however the rates are varying from Rs. 30 to Rs. 100 per square yard depending upon the locality. It is needless to say that the enormous cost of land itself will have a great impact on the housing activity preventing average individual to come forward to have his own house. In such circumstances it is advisable that building societies, Housing Board and other institutions should acquire large plots of land in suburbs at cheaper rates and launch larger scale housing schemes to minimise cost of construction.

3.2 The effect of migration of people from rural areas to urban areas is much to be accounted for with reference to the housing problem. It will aggravate the problem instead of solving because the cost of land will be generally high in urban areas than in rural areas and hence the cost of building construction naturally will go up compared to rural construction. To mitigate this tendency of migration to urban areas the house building activities must be spread to rural areas also while simultaneously taking them in urban areas. In this reference the recent exodus of Hindus from East Pakistan can be cited. Nearly 1000 refugee families have been settled by the end of September 1970 in Esagaon of Adilaba District and were engaged in cultivating 600 acres of land which has been reclaimed. Another batch of 1000 refugee families from East Pakistan in the recent influx had arrived in Esagaon and were now in transit camps till the area was further developed and their permanent rehabilitation was fixed. Each refugee family was allotted 5 acres of land for agriculture and 1/3 acre for kitchen garden and a house costing Rs. 1,250 which could be owned by the family in 20 years. In addition the families were entitled to loans for purchasing bullocks, implements, seeds and fertilisers. The entire area was marked out as 10 villages and one village was allotted for 100 families. At each village agricultural land was being improved for paddy cultivation which these families were accustomed to paddy, hybrid maize, Bajra and till were grown in this area.

The housing problem for these refugee families was solved to some extent by providing cheap houses in the Adilabad District where abundant forest land is available. To provide accommodation in any other developed areas would result in huge expenditure towards land acquisition itself apart from other relief works. Therefore, the problem of providing accommodation for refugee families will be augmented if it is to be done in developed areas.

#### 4.0 Conclusion

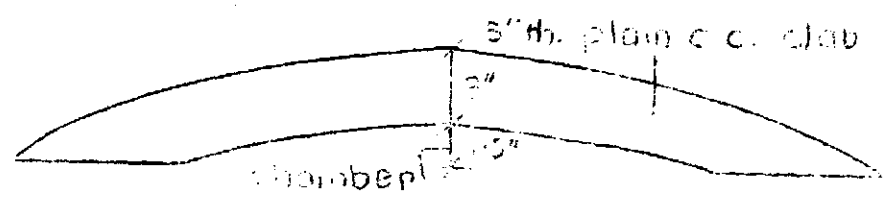
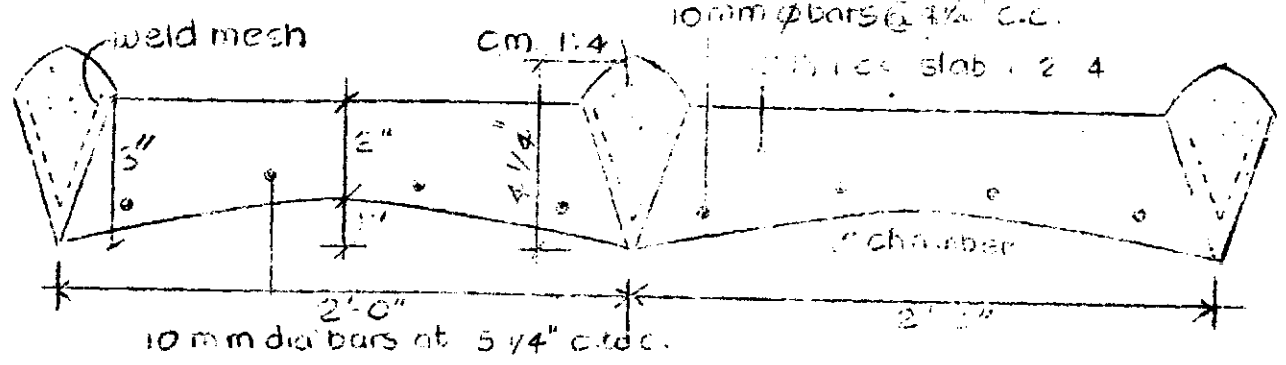
4.1 In Andhra Pradesh the demand for the houses constructed by the Housing Board is growing fast as witnessed by the numerous applications for allotment received from the public by the Board. In fact the board is unable to cope up with the demand for houses from the public. This is undoubtedly an indication to show that the public have become conscious of the building activity by the Board at fairly reasonable costs which otherwise will not be available at such a moderate cost. Hence it is to be impressed on the government and other financing institutions such as Life Insurance Corporations, financing banks etc., to invest huge capital in order to launch the housing schemes on a large scale.

4.2 As the availability of land will be generally scarce in the heart of well developed cities and the cost of land soars very high, land must be acquired by building societies on large scale at the out skirts of cities at cheaper costs.

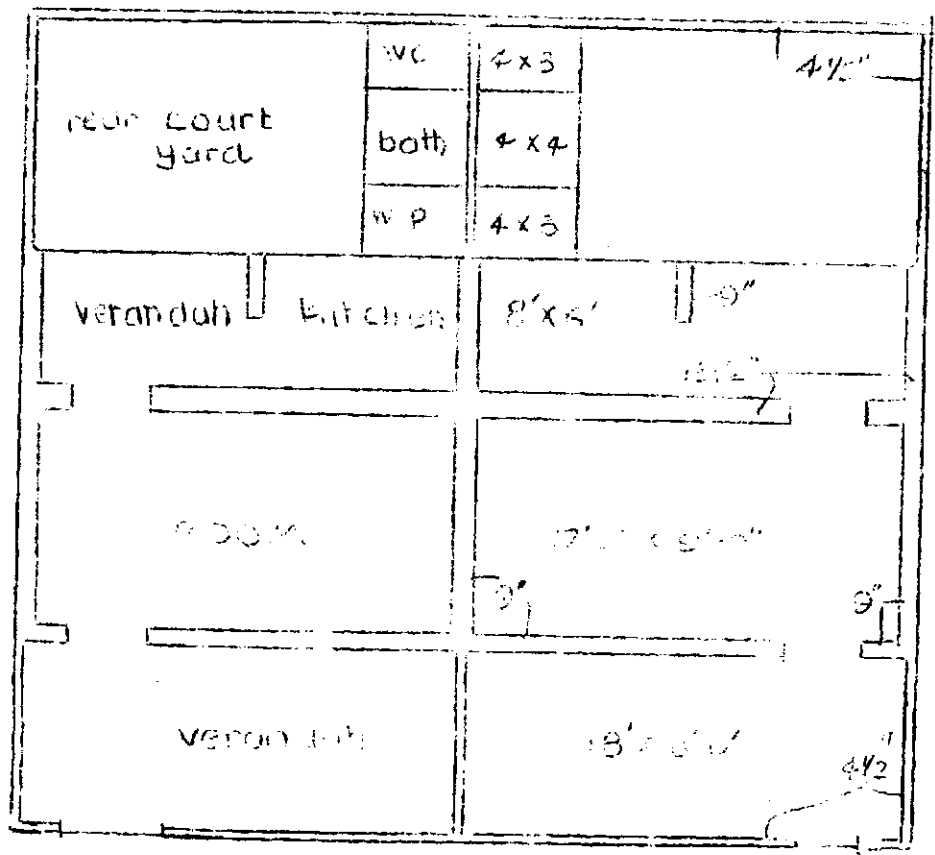
4.3 To check the impact of migration on housing problem the building activities must be spread over to the rural areas also while simultaneously undertaking them in urban areas.

-9-

FIG I



plain c.c slab over 3'x4' & 4'x4' size. w.c. & both.



PLAN OF LOW COST HOUSE

Pattern and type of industrial housing in  
Kolar Gold Fields

by

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Summary

The paper deals with housing provided to industrial workers from time of organized development of Gold Mine Industry in 1830. The design and construction improvements incorporated from 'tatty houses' provided to the Kolar Gold Field industrial workers in the past to concrete houses of the present have been described in detail.

1. Introduction

1.1 The organized development of Gold Mine Industry began round about in the year 1830, when large number of Small companies began operations. By about 1890, regular Mining operations started under the management of Messrs Taylor & Sons. Ever since that time the problem of Housing of the labour who were recruited from far off places like North Arcot district and Malabar, had to be tackled by the Mining Company as there was no regular township then.

1.2 Initially the Mining Company erected temporary tatty houses and organised regular camps. These tatty houses became almost permanent abodes for the industrial workers until 1954. These tatty houses had a living area of 162 sq. ft. (13' x 9') including kitchen of 6' x 9'. Most of these were roofed with either zinc sheets or mangalore tiles. Subsequently modified form of houses having larger area were constructed to house sub-supervisory staff; areas of these varied from 275 sq. ft. to about 400 sq. ft. in some cases.

2. Construction material used in tatty houses

2.1 Tatty houses consist of frame work of timber to which double layer bamboo tatties and mats were clad with openings made for small windows of 2' x 1.1/2' provided with shutters. To hold tatty and mat clad, reepers were used and these were nailed on to the frame work holding the cladding on to the

timber work. Flooring consisted of rammad mat. While the initial cost of construction of these tatty houses was about Rs. 300/-, the cost of the same in the year 1945-46 was Rs. 400/- and construction of a similar house now will cost anywhere between Rs. 300/900. The average life of the mat and mat which form the essential parts for replacement is about 18 months and the cost of the replacement today is in the neighbourhood of Rs. 350/- per house. To keep up this maintenance large number of carpenters are being employed.

### 3. Improvement of Construction Techniques.

3.1 Round about in the year 1937 concentrated efforts appear to have been made to replace these tatty houses and after some experimental work, concrete structures having about the same area were evolved. These concrete houses consist of concrete posts 5" x 5" size having groove between which concrete slabs of 1" thickness were fixed. The concrete was of 1:3:3 mixture ingredient being broken material from broken black rock which was largely available, at site. For the reinforcement, strands from used wire ropes were utilized and single wires taken from such wire ropes were used for the slab reinforcement after straightening the same. These single concrete houses also became standard on the field so much so by the year 1950 approximately 3400 concrete houses had been constructed.

3.2 In the year 1950 there appears to have been another concentrated move made to improve the type of the quarters and also living area. During this period several types of houses were constructed, notable amongst which are

- (i) Cast-on-site Houses
- (ii) "Staplecrete" Block houses

The Cast-on-site houses consist of 3" thick walls cast in situ with shutters, and roofed with asbestos sheet, while 'Staplecrete' block houses were constructed using building blocks 3" x 3" x 4" thick. These blocks are made by using the tailing sand and cement in the proportion of 1:6 and pressing the wet mixture in the Brick-making Press. 'Block' houses were provided with RCC roofing 3" thick. The cost of cast-on-site house was Rs. 1300/- each and the cost of the 'Block' house Rs. 2000/- each. The living area of Cast-on-Site and 'Block' house were 252 sq. ft. and 333 Sq. ft. respectively. There were 125 houses of Cast-on-site type and 58 houses of 'Block' type.



The Cast-on-Site houses as well as 'Block' houses had the advantage of thick walls than the concrete 'Post & Slab' construction and therefore were better type as far as heat/cold ~~conditi on~~ conduction is concerned.

#### 4. Housing after mining nationalization

4.1 Shortly afterwards with the possibility of Mines being nationalised, the Mining Company did not concern themselves with the construction or improvement of quarters. However when the Mysore Government took over in 1956, they were keenly interested in the improvement of living conditions of the labour and so much so in the year 1960-61, 1961-62, Rs. 40,00,000/- was sanctioned for the construction of Industrial houses. During this period the living area was increased from 162 Sq. ft. to 275/ ft. 400 houses were constructed. /Sq. They were again 'Post & Slab' type concrete houses. During this time some houses having monolithic post and rafter with sl keyed on by grout were constructed.

4.2 With the mines being taken by Central Government in December, 1962 replacement of all petty houses by concrete ones having the minimum area of 365 Sq. ft. has been the policy. Already 150 houses (twin type) have been constructed. These are of Slab Post type construction with 108 sheet roofing and provided with concrete floor, electric lights and separate water closet for each house and water tap. About 150 houses will be constructed during the current year also. The slab Post type was decided for two reasons, firstly to conform with Government of India (Ministry of Finance) circular No. 297-Adv(c)/circ-3/66 dated 4.11.1966 and secondly to ensure quick progress. The Posts & Slabs are produced in the Concrete Factory attached to the Mining Industry in a 'Mass' scale and erected at site. The cost of these houses in 1969 was Rs. 7431.56 and the present cost is estimated at Rs. 8629-35 each Twin Unit.

4.3 As said earlier, for reinforcement, strands from used wire ropes are utilised and single wires taken from such wire rope strands are used after stretching the same. The device consists of an old Air Leg connected to a sliding block to which one end of the rope is fixed, the other end of the rope being anchored on a fixed pedestal. The lever is connected to the sliding block moves it so that it could be connected on to the Air Leg piston through a connecting link. The secondary leads of the transformer are connected to the fixed pedestal and to the frame work containing the moving stator. When the current is switched on, the lever developed

by the current will burn all the grease, thus degreasing the wire strand and when the wire rope strand attains sufficient temperature, air is let in to the Air Leg which pulls the wire strand and thus straighten it. This also enables to straighten any of the bends in the wire strands. The advantage in this device is that the rope is not annealed but is completely degreased while its strength remains unaffected. The stretched wires are then woven into mats as required, and used for Slab reinforcement.

The cost of the manufacture of each twin type concrete house, as at present, is given below in detail:

1. Manufacture of component Parts ..	3550 = 27
2. Erection tank ..	4048 = 35
3. Septic tank and soak pit. (Proportionate cost) ..	120 = 23
4. Electric lights ..	560 = 00
5. Water ..	150 = 00
6. Site development. ..	200 = 00
	<hr/>
	8628 = 35

The rate of manufacture of component parts is one half unit per day; the number of men engaged, on this being 63. The erection work is centralised and though the aim is to construct one house a day, the achievement was one unit in three days. It is anticipated that this year we will be able to get our target of progress.

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Trends and Amenities Provided in Public sector  
Housing construction

by  
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Summary

The paper deals with amenities and standards of accommodation provided for employees of different pay ranges even since the government took up housing construction in 1930. The standards of floor area for higher type flats have been reduced while an upward trends are seen in lower type of flats. The paper also throws light on design modifications introduced by Central Public Works Department in its housing programmes from time to time.

1. Introduction

1.1 Housing comprises of three categories of constructions. Broadly, first of these are inhabited by Home buildings or estate agents, the second by the Public sector houses and the third by the house owning classes.

1.2 The housing ministry of Government of India have embarked on large scale construction of housing units in some of the cities for providing accommodation for Central Government employees. In Southern region, Governing housing has been carried out in a small measure from 1930 in Airports and other isolated localities. Recently a start has been made in Madras and Bangalore for providing large scale general pool accommodation. After independence, Housing projects have been undertaken for Central Govt. staff by specific Ministries, like the Ministry of Finance, in number of places in southern Region.

1.3 The Central P. W. D., as the agency for construction for Government of India, all over India, has to its credit construction of thousands of quarters of various types and categories, the various parts of the country. Houses have been built in various regions with different climatic conditions making use of various local materials and forms of construction to cater to the needs of the occupants as best as possible, who are moved about from place to place in their tenure of service. Substantial work has been done in this respect in southern Region. Over the years, several improvements have been made

with regard to the layout, design and construction of public sector housing. Maximum amount of comfortable living within the accommodation provided and within the cost limits prescribed for various types of quarters have been attempted. Attention has also been paid to the modern amenities and planning of surroundings in working out the housing projects.

## 2. Motivations of Govt. housing construction

2.1 Government is not entirely motivated by Commercial considerations in providing accommodation to its employees. It is more of a welfare measure as it has to ensure good living conditions to its employees, so that the best output is obtained from them. The government has, therefore, to subsidise the expenditure on housing to a certain extent. The expenditure incurred on housing will not be an investment in the full sense of the term. In order to ensure that the subsidy is kept within reasonable limits, the capitalised cost of construction of the dwelling units have to be kept to the minimum. In the case of housing, the capitalised cost takes into account the following factors.

- (i) Interest on capital investment.
- (ii) Maintenance expenditure.
- (iii) Periodic payment necessary to keep the depreciable capital intact on the basis of expected life and money value.

2.2 If these factors are taken into account, it is necessary to construct permanent type of construction with a life span of at least 60 years, for proper utilisation of available resources set apart for housing. Generally a Government servant pays either the standard rent or 10% of his emoluments whichever is less. The standard rent is calculated at 6% interest per cent of the capital cost of construction including cost of sanitary fittings, water supply, electrical installations, including cost of sanitary fittings, excluding cost of land and development. The standard rent is generally higher in the case of lower type of categories of flats and lower in the case of higher categories. The Government is forced to pay in the form of subsidy the difference between the standard rent and 10% of emoluments not covered from the employee. This subsidy increases as the cost of construction goes up. In order to keep down the subsidised amount, efforts are made to achieve this objective by

- (i) improving architectural and engineering planning and designing;
- (ii) promotion of use of new type of materials and builders equipment and
- (iii) improvements in administrative and organisational arrangements from time to time.

### 3. standards of accommodation.

3.1 Prior to independence, accommodation for Central Government officers were constructed in two general categories, viz., Bungalow types for officers and tenements for other staff. They were generally single storied. The bungalows of few categories were designed without any specific limit on plinth areas. The tenements were generally of two room or single room type constructed in lines or in squares.

3.2 After independence, classification of accommodation based on plinth area, total cost of unit and the pay range was laid down by the Works Ministry. In the year 1954, nine types of houses were approved. The highest type was provided with a plinth area of 3000 sq. ft. and the lowest type had a plinth area of 345 sq. ft. The classification was revised in 1962 reducing the number of types to seven. The maximum area provided was 2750 sq. ft. and the lowest category was retained at 345 sq. ft. Again the classification was revised in 1967, bringing down the categories of houses to six. The area under the highest type has been brought down to 2165 Sq. ft. whereas in the lowest type the area has been increased to 419 Sq. ft. The servants quarters attached to higher type of quarters have also been reduced. For the highest type under 1954 classification, the area provided for servant's quarters is 611 Sq. ft. whereas under recent classification only one servant's quarter with an area of 240 sq. ft. is to be provided. In other words, efforts have been made to rationalise the number of types to the minimum as far as possible.

3.3 The earliest type I quarter (lowest type) design provided only for one living room with a kitchen, verandah and the bath and W.C. was common for two quarters. It has been now accepted that a minimum of two rooms with adequate sanitary and other facilities is the barest minimum for achievement of normal aspirations of healthy and comfortable living. In the latest design of type I quarters accommodation is being provided with two rooms with independent bath and W.C. The different types of quarters with their plinth areas as per 1967, 1962 and 1954 classifications are shown in annex I, II, III respectively.

3.4 Special attention is now being paid to layout of the housing colony. Efforts are made to provide (i) less crowded appearance in the layout, (ii) more interesting grouping of houses, (iii) better privacy is maintained, (iv) each house to have its southern exposure uninterrupted. In the initial layouts, same types of houses were together. This resulted in class distinction in housing colonies. Present-day trend is

intermingling of different types of houses in the same layout. This, in a way, reflects the present trend of socialistic pattern of living sponsored by the Government. In order to ensure better ventilation and privacy, the blocks of houses are staggered and are not generally kept in a row.

3.5 The layouts provide for recreational facilities in the form of pot lots and play grounds, communal facilities like clubs, community centres and other welfare facilities like dispensaries, markets, schools, etc. Thus, each sector is a self-contained unit, providing for all facilities for comfortable living.

3.6 Prior to 1940, most of the constructions undertaken in southern region was single-storied. In subsequent years, two storied constructions were adopted. In recent constructions we have adopted four-storied construction. It is considered that the optimum number of storied without lifts should be only four. We have plans for construction of multi-storied point blocks in future in Madras. It is however, apprehended that multi-storied flats may not be popular in the southern region for some more years as people are not yet fully reconciled to the idea of living in flats. In the earlier days single-storied construction generally had 13½" thick walls. In double-storied construction, 13½" thick wall in ground floor and 9" thick wall in first floor was adopted. In recent constructions we have carried out three-storied constructions with 9" thick walls in all the floors. Four-storied constructions have been done with R.C.C. framed structures and masonry filler walls 9" thick.

3.7 In the earlier designs, the aim was to provide big rooms and halls with some amount of verandah space, court yards etc. The present trend is towards smaller rooms but more numbers to provide for greater privacy. It is accepted as a policy that even the lowest type of house should have minimum two rooms. The design is also now aimed at minimizing the circulation space within a flat which is a departure from old design with verandahs and court-yards.

3.8 Every family has some belongings which are to be used for occasional use only and not required for day-to-day use. With the limited area at the disposal of lower type of dwellers, additional storage space at a level higher than ground level had to be found. Lofts have been provided in the bedrooms and over lavatories to solve this problem.

Contd.....5/-.

#### 4. Trends in Specifications.

4.1 In previous years, the houses were finished with cement plaster, both inside and outside. The external finish was generally of colour wash. Monotony of repetitive colour scheme has been dispensed with later constructions, with textural variations, such as pebble-dash, rough cast plaster, stone weathering and with different colour schemes for different faces of building.

4.2 We have been using country wood shutters for the doors of low type quarters. In recent constructions, we are using panelled doors with treated country wood frames with 1/2" thick particle board panels for internal doors and 3/4" thick block board panels for external doors. Width of internal doors are normally 2'-3", 2'-6" and 2'-9". The width of external doors are normally 3'-0" and 3'-3" and 4'-0" in some cases. We have tried to provide asymmetrical double leaf shutters for bigger openings. Hot and humid climate of southern region requires ample ventilation during the months of April to September to counter-act the effect of high humidity and temperature. The buildings are designed with sufficient window openings in the external walls to ensure cross ventilation. Double hung windows adopted in the old design, have been replaced with casement type windows. Instead of side hung windows, awning-type windows have been adopted in some cases in order to ensure ventilation, even if it is partially closed to prevent splashing of rain during stormy weather. Fixed sash windows with double hung windows on either side are also adopted. Windows staggered at different heights have also been used in recent constructions. In old constructions we have used iron fittings for lower type of quarters. Nowadays we are using oxidised iron fittings for lower type and anodised aluminium for higher types of Qrs.

4.3 Planning of the kitchen has been receiving more attention nowadays. In any household kitchen there are three centres of activities, namely -

- (i) preservation and storage centre.
- (ii) Preparation and cleaning centre.
- (iii) cooking and serving centre.

Preservation and storage centre consists of meat safe, shelves and cupboards etc. These should be near the door so that the deliveries may be received and stored without being taken across the kitchen. Open shelving is provided for the full width of kitchen. Full height cupboards are provided for giving bulk storage space for groceries. Preparation and cleaning centre consists of sinks with draining board, floor sink with tap, and a working top in the platform. It is generally placed on a

side wall where good light is available through a window. Cooking centre is the place where actual cooking is done. Two types of method of cooking practices are in vogue in southern region. There are

- (i) standing type,
- (ii) squatting types.

The former is increasingly becoming common in upper middle class families. Lower categories of quarters are generally provided with squatting type and standing type is adopted for higher type. Provision is also made for having gas cylinders below the platform by increasing the height of platform to 2'-9"

4.4 Garbage bins are a necessity for solid wastes to be stored during the day. The lavatory unit design should have a space set apart for this purpose. The bins should be movable type for convenience and cleanliness.

#### 5. Conclusion:

5.1 The cost of the building is made up of three components namely materials, labour and profits and overheads in the ratio 6:3:1. There is very little scope for reducing the labour costs. Thus the aim of the engineer and architects is to reduce the quantum of materials under use without sacrificing utility and comfort. Work study and net work techniques are adopted for effecting economy in materials, time of construction etc. In the case of lower type of quarters recent thinking has been in the lines of production type construction using pre-fabricated techniques available.

5.2 In conclusion, it is reiterated that "housing" is a dynamic problem which requires constant attention for improving the designs for ensuring comfortable living and working out specifications in respect of materials as well as working detail to achieve the maximum economy in respect of materials, time of construction etc.



ANNEXURE I: Accommodation provided under 1967 Classification

Sl. No.	Type of residences	Proposed pay group	Plinth areas	(3)	Cost per Unit	(4)	Remarks	(5)
1.	Type VI	Rs. 2250/- and above.	Residential Unit Circulation space Sleeping balcony	2100-0 64-5 96-0 ----- 2260-5 sft.	52,550/-	1. The plinth areas mentioned are with rest to 9" thick wall. 2. Extra area due to walls thicker than 9" has been allowed for.		
2.	Type V	Rs. 1250/- to 2249/-	Residential Unit Circulation space Sleeping balcony	1500.0 64.5 96.0 ----- 1660.5 Sft.	39,220/-	3. Servant's quarters and garages (one each with a plinth area of 22.3 Sq. Metres (240 Sft.) and 21 Sq. Metres (225 Sft.) respectively will be built in common blocks for quarters of Type V and VI.		
3.	Type IV	Rs. 700/- to Rs.1249/-	Residential Unit Circulation space Sleeping balcony	900.0 54.0 84.0 ----- 1038.0 Sft.	22,100/-	4. Cost given is based on 1962 DSR and is inclusive of services and scooter sheds garages but excluding servants quarters. Main building in 4 storeyed construction. Scooter sheds and garages in single storey.		
4.	Type III	Rs. 350/- to Rs.699/-	Residential Unit Circulation space Sleeping balcony	710.0 54.0 60.0 ----- 824.0 Sft.	17,620/-			

(0)	(1)	(2)	(3)	(4)	(5)
5.	Type II	Other than Class IV up to Rs. 349/-	Residential Unit 535.0 Circulation space 54.0 Sleeping balcony 60.0 ----- 649.0 Sft. -----	13,660/-	
6.	Type I	All Class IV officers.	Residential Unit 365.0 Circulation space 54.0 Sleeping balcony 60.0 ----- 479.0 Sft. -----	10,310/-	

Sl. No.	Type of residence	Pay group	Details of accommodation of main building.	Plinth area	Total approximate cost per unit including all services but excluding cost of land	Remarks
1	2	3	4	5	6	7
1.	Type VII	Rs. 2251/- and above.	Four bed rooms, living room, dining room, study cum guest room, kitchen, pantry, store room and three sets of toilets. Two servants quarters each having a room and a kitchen with one bath and w.c. for both quarters. One garage.	Main Building 2750 Sft. Ser. Or. 450 Sft. Garage 250 Sft. Compound wall 410 Rft. Courtyard wall 64 Rft.	Rs. 59,247/-	
2.	Type VI	Rs. 1301/- to 2250/-	Three bed rooms, living room, dining room, study cum office room, kitchen, pantry. Store one toilet, one bath and one w.c. Two servants quarters each having a room and cooking space with one bath and w.c. for both quarters. One garage.	Main building 2100 Sft. Spiral stair. Servant's Qrs. 450 Sft. Garage 225 Sft. Compound wall 98.75 Rft.	Rs. 42,400/-	
3.	Type V	Rs. 701/- to Rs. 1300/-	Two bed room, living cum dining room, kitchen, pantry, store, one toilet, one bath and one w.c. One servant room with one bath and one w.c.	Main building 1770 Sft. Garage 100 Sft. Compound wall 25 Rft.	Rs. 29,459/-	
4.	Type IV	Rs. 401/- to Rs. 700/-	Two bed rooms, living cum dining room, kitchen, bath and w.c.	Main building 1130 Sft. 1-1/2" C.C. flooring. on 1st floor 500 Sft.	Rs. 16,452	

5. Type III	Rs. 251/-to Rs.400/-	Two room,kitchen,bath and W.C.	Main building 1-1/2" C.C. flooring. on 1st floor. Platform	1130 Sft.  330 Sft. 25 Sft	Rs.11,256/-
6. Type II	Rs. 110/-to Rs. 250/-	Two room,kitchen, bath & W.C.	Main building 1-1/2" C.C. flooring on first floor Platform	600 Sft.  260 Sft. 20 Sft.	Rs. 8,511/-
7. Type I	Below Rs. 110/-	One room,one multi- purpose room,bath and w.C.	Main building Platform	345 Sft. 28 Sft.	Rs. 4,875/-

Type of residence	Pay group	Details of accommodation of main building	Plinth area	Total approximate cost per unit including all services but excluding the cost of land	Remarks	
1	2	3	4	5	6	
<b>OFFICERS GROUND FLOOR</b>						
1. A & B Type Bungalows (Type VII)	Rs. 2000/- and above.	Living and dining room, bed room, office, dressing room, bath, w.c., kitchen, pantry, store, preparation, front and rear verandah. First floor:- 2 bed rooms, 2 dressing rooms, 2 bath rooms and front and rear verandah.	Main building Servants Qrs. Garage Compound wall Courtyard wall	3000 Sft. 611 " 247 " 410 Rft. 64 Rft.	Rs. 57,082/-	A garage and 3 servants qrs. with cooking verandah in a detached block
2. C-I type houses (Type VI b)	Rs. 1600/- to Rs. 1999/-	Ground floor: Drawing and dining room, office, dressing room, lavatory, kitchen store, pantry and front & rear verandah. First floor: 3 bed rooms, bath, w.c., lavatory, dressing, store, front and rear verandah.	Main building Servants Qrs. Garage Compound wall	2535 Sft. 476 Sft. 231 Sft. 187.5 Rft.	Rs. 46,429/-	A garage & 2 servants qrs. with cooking verandah in a detached block.
3. C-II type houses (Type VIa)	Rs. 1000/- to Rs. 1499/-	Living and dining room, 3 bed rooms, study room, kitchen, store, pantry, w.c. bath, lavatory, front and rear verandah.	Main building Spiral stairs Ser. Quarter and garage Compound wall	2100 Sft. 1 No. 656 Sft. 98.75 Rft.	Rs. 38,886/-	A garage, one servant qr. with cooking verandah & one without cooking verandah in a detached block.

4.	D 1 Type houses (Type V)	Rs.750/- to Rs.999/-	Living and dining room, 2 bed rooms, study room, kitchen store, bath, W.C. lavatory, front and rear verandah, servants room with common bath and W.C.	Main building Garage Compound wall	2184 Sft. 100 " 25 Sft	Rs.31,886/-	Servants qr. located in the main building.
5.	DII type houses (Type IV)	Rs.500/- to Rs.749/-	Living and dining room, 2 bed rooms, kitchen, store, toilet, bath, W.C. front and rear verandah, servants room with common bath and W.C.	Main building Garage Compound wall	1770 Sft. 50 Sft. 25 Sft.	Rs.25,645/-	Servants quarter located in the main building.

#### CLERKS

6.	E-Type houses (Type III)	Rs.250/- to Rs.499/-	Living room, 2 bed rooms, kitchen, store, bath, W.C. and front and rear verandah.	Main building	1100 Sft.	Rs.13,928/-	No servants quarters & garage provided.
7.	F-Type houses (Type II b)	Rs.150/- to Rs.249/-	Living room, bed room, kitchen, store, bath, W.C. front and rear verandah.	Main building	770 Sft.	Rs. 9,749/-	-do-
8.	G-Type houses	Rs.55/- to Rs.149/-	Living room, bed room, kitchen, bath, W.C. and rear verandah with platform on ground floor and balcony on first floor.	Main building	600 Sft.	Rs. 7,366/-	-do-
9.	CLASS IV STAFF						
	Class IV houses (Type I)	Below Rs.55/-	Living room, cooking verandah, bath & W.C., common for 2 quarters with platform on ground floor and balcony on first floor.	Main building	345 Sft.	Rs. 3,707/-	-do-

# Construction Handicaps in Big Urban Centres

By

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&

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## Summary

(The paper deals with problems faced by construction agencies in carrying out construction work in big urban centres due to concentrated construction activity in such centres. The paper suggests for freezing of urban land values in and around urban centres, development of brick industry as 'Small Scale Industry' and modification in building bye-laws of local bodies.)

## Introduction

1.1 Most of the construction activity in our country is concentrated in and around big urban centres though rural areas are selected and developed for many large and heavy industrial projects. In effect, our country is witnessing a phenomenal growth and expansion of cities, which are the nerve centres of commercial and industrial activities. In South India, cities like Madras, Bangalore, Coimbatore and Vizag are urban centres undergoing rapid change and increasingly becoming the natural choice of entrepreneurs for basing their commercial enterprises. A big city offers better facilities for Banking, Insurance and Communication and thereby promotes commercial activities, resulting in further expansion of the city itself.

1.2 At the outset it may appear that construction activity would be easier and faster in big urban centres because of numerous facilities. A closer look would, however, reveal that there are several handicaps in carrying out constructions in large urban centres. These are discussed here. It is quite likely that a particular city may pose some special problems that are peculiar to it. It is not proposed to discuss such problems. It is proposed to list out only those handicaps and problems which apply to all big cities to a greater or less extent.

## 2. High value of land and planning difficulties.

2.1 Any large scale construction activity follows careful planning. At the planning stage itself difficulties present a rather difficult situation. First, it is very difficult to acquire an area of land large enough for a specific purpose. In this era of rising urban land prices and increasing scarcity of urban land, it often becomes necessary to plan a building according to the available acquired land, rather than the other way about. This is like putting the cart before the horse, even though it may be more acceptably explained away as an instance of cutting one's coat according to the cloth. Thus, the initial planning itself has to be worked out within the constraints of the actual availability of land. Further, even in the acquisition of land, one can exercise very little choice by way of location, suitability of land, suitability of the soil for founding the building etc. On account of the scarcity of land, one has to select from a very few available alternatives. The high price of land stands in the way of acquiring a bigger plot of land which may otherwise be preferable.

2.2 After acquiring land, it becomes necessary to utilise it to the maximum possible extent. For this purpose, a high coverage of land and a tall structure are aimed at. But, even in this matter, the constraints placed by the Municipal bye-laws of the city concerned ultimately restrict to height and area coverage. The Municipal bye-laws are often out-dated and extremely rigid. Most of the Municipal bye-laws date back to more than 30 years when the growth of high-rise buildings would not have been visualised. Restrictions such as minimum ceiling height, minimum off-set on each side of the building etc. further limit the possibilities of arriving at an optimum plan for the building.

2.3 It is therefore necessary that action should be taken to forestall the land prices, in a high-density city and setting for competition for development purposes. Land and financial assistance should be given by the nationalised Banks to City Improvement Trusts and Housing Boards and such organisations so that land is available at a reasonable cost for new projects to be undertaken by Public Sector or by individual enterprises. The Corporation bye-laws should be reviewed and amended taking into account latest construction techniques. It is suggested that a National Code for Urban Development may be prepared under direction of Central Government and made applicable to all Cities.

## 3. Special Foundation Problems.

Modern trend is to have high-rise buildings in all urban areas to ensure the best utilisation of land.



This often leads to special foundation problems resulting from a high intensity of loading over a limited area. Pile foundations or raft foundations become necessary in most cases. Both these are not only costly, but also involve a longer time and specialized agencies for executing the work. Sometimes the impact of pile driving vibrates the adjacent buildings leading to a protest from their owners.

#### 4. Place for stocking materials.

4.1 Due to the limited area of the plot generally available and also due to high coverage of land, the space for stocking and stacking the materials during the construction becomes very much restricted. It becomes necessary to restrict the storage of materials to the minimum extent possible. During the construction, sometimes it is desirable to store materials in the most favourable season. For instance, bricks and sand are generally stocked before the advent of the monsoon because once the monsoon begins, these materials become scarce and their price also increases. Similarly, during the monsoon, the approaches to the quarries of stone ballast, lime etc. also become unfit for carrying heavy vehicles. Hence, the construction agencies prefer to stock these materials well in advance of the monsoon, especially in big construction projects. But, the inadequacy of space at the site prevents them from doing so. This results in slow progress and increases the building cost. In order to reduce the delay and the cost of procurement, a well planned inventory policy has to be adopted by which the procurement of materials can be so done in such a manner that the space is made available at the site for the critical material like bricks, sand etc. the lack of which would bring the construction to halt. But even with such meticulous planning, the experience of construction agencies shows that the work can thus get held up for want of materials which are not procured in advance for want of space.

4.2 The possible remedy for this problem appears to be to popularise the use silos of storage of cement and to arrange for filling of silos by bulk supply arrangement. Materials like brick etc; which become scarce during rains, have to be developed as an industry so that these materials are available during all seasons. Small factories for manufacturing bricks with indigenous machinery may have to be developed and this industry should be encouraged as a "Small scale Industry".

#### 5. Traffic bottleneck

Due to the high intensity of traffic on important roads, the administrations of urban cities impose certain restrictions regarding the use of roads. Heavy vehicular traffic on several important arterial roads is prohibited

during the day time. As a result of this, cartage of materials by heavy vehicles has to be done through circuitous routes resulting in delay and increased cost on account of increased leads. Cartage of materials through extra leads is an avoidable unproductive effort which merely increases the overall cost. Further due to the congestion of traffic on the roads, it takes a longer time for the material to reach the site because of slow movement of the vehicles in the congested traffic condition. This reduces the number of trips which a vehicle can make in a day and thereby increases the cost of transportation. Arrangements have to be made for transport of materials during night time when the traffic is likely to be very lean. This requires lighting of the yards where the materials are stocked and loading facilities in the night.

6. Labour scarcity.

Concentration of building activity in urban centres results in shortage of construction labour force. This may sound somewhat paradoxical. The labour shortage in cities is due to the large scale construction activity round the year, even though in the country, as a whole, there is unemployment among all categories of labour. In urban centres there is acute shortage, particularly of skilled labour. It is not un-common to find skilled labourers working at one work site during the day and at another during the night even though this is prohibited under the labour regulations. This results in low productivity and poor quality of work. Another problem which is encountered in the urban centres is the repeated movement of labourers to their villages and back. The labour gangs which generally come to urban centres from the rural areas go back to their villages before the harvest season and during the time of festivals. This results in large scale absenteeism particularly at the time of Deepavali, Pongal and Dasara etc. Such absenteeism upsets the continuity of construction.

7. Shortage of materials.

Due to extensive construction activity in urban centres, the supply of materials such as bricks, stone ballast etc. does not match the full requirements of the various projects. Whenever a very huge project, such as development of a Port etc. is launched, all the other projects suffer due to shortage of materials. The owners of quarries and kilns dictate their terms and it becomes very difficult to obtain materials according to the specifications. The user has to come to terms with the suppliers in the interest of the progress of work. This problem has occurred in the Cities of Madras and Vizag in the past.

8. Problem of services.

The last but not the least handicaps in construction is the problem arising out of services such as water supply, drainage and electricity. As is well-known none of our urban centres has been properly planned to take into account the future needs resulting from enormous increase in population and business activity. For instance, though Madras and Bangalore have been growing very fast, the facilities such as water supply and drainage have failed to keep pace with the general growth of these cities. There is a chronic shortage of water in both these cities. Water is not only required in large quantities for construction activities, but every additional building which comes up in the city results in additional consumption of water daily. But unfortunately, the Municipal authorities are not able to cope up with the ever increasing demand. Similarly, the drainage and sewer lines are not able to cope with the increased discharges resulting from the city's growth. The services pose another problem during construction. Due to the haphazard growth of the urban areas, it is often found that various pipe lines and cables foul with the foundations of buildings. In such cases, it becomes necessary to re-orient the foundations or to re-lay and divert the pipe lines and cables. When an un-anticipated pipe line is encountered, the organisation to which it belongs has to be discovered and approached for the diversion to be effected. This again results in a considerable delay, waste of time and extra expenditure.

It may be necessary to constitute a "Planning Board" for each city which should co-ordinate the activities of various services involved in the development of the City. This board has to do lot of crystal gazing to forecast the development in the distant future, say next ten years and take action to supplement the resources of the city in respect of water supply, drainage, material resources etc. so that the construction activities of the city does not suffer for want of adequate service facilities.

Conclusion:

The above list of handicaps cannot be considered to cover all the problems that are encountered in an urban construction, but it represents by and large the problems that are common to most of such constructions.

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# Role played by co-operatives in activising housing and building activity.

by

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## Summary

( The paper describes the various types of housing cooperatives at present functioning in the Southern and other regions of India. Recognising the role of Cooperative movement in alleviating peoples' need for adequate shelter, which has acquired huge dimensions, it has been suggested that housing cooperatives should be extended in scope to cover building labour and material. Also the paper brings out that the main impediment coming in the way of this movement is the absence of adequate finance and, therefore, the need of the Central and State Governments for augmenting the resources of the housing Cooperative Societies in addition to their floating debentures and raising loans from the Life Insurance Corporation has been emphasised. The Central and State Governments should also give incentives by way of exemption from payment of income tax, municipal taxes and cesses etc. in order to give fillip to this movement. Again the role of apex institutions for development of land by the housing Cooperatives by advancing loan to them has been brought out)

## 1.0 Introduction

1.1 The problem of housing is most crucial as well as complex problem of the country. It has acquired great importance in the socialistic pattern of society. Providing better housing signifies an important living condition and pre-requisite to the economic growth. The Co-operative Housing Movement has a significant role to play in solving this magnanimous problem.

1.2 The problem of constructing houses has assumed a gigantic form after the second world war which had brought destruction and dissolution on an unprecedented scale during the years of war. These factors and the growth of population, the material prosperity, the fast changing of social values have a tremendous physical demand for houses. The problem is more acute in urban areas because of the high tempo of industrial development which have increasingly come to concentrate in big cities and towns. However, there is unlimited scope for construction of houses both in urban and rural areas where the Co-operative Movement has a very positive part to play.

## 2. Cooperative Movement in Housing

2.1 In India the Co-operative Movement was started with agricultural credit and in the Co-operative Housing Sector different types of Housing Co-operative societies are now functioning namely Tenant Co-partnership and Tenant Ownership Co-operative Societies in Maharashtra and Building Societies, House Construction Societies and Township Societies in Madras State took shape for the benefit of urban as well as rural population. The main impediment that has come in the way of progress of the Co-operative Housing Societies is that of want of adequate finance. The Co-operative Housing Institutions are now gathering momentum with the constitution of Apex Finance Institutions in different States. With the establishment of the Housing Federation at the national level, there is a bright future in view for the Housing Co-operatives in the Country.

2.2 In tackling the Housing problem, the Co-operative Societies have certain distinct advantages over others due to various reasons. A Co-operative Society is formed by individuals to meet their common need by desirable means. It helps to eliminate the speculation and competition in housing. It is an institution organised voluntarily on the basis of mutual help to assist one another in meeting their housing needs on a service basis. With the association of people it develops a personal bond and common interest and a sense of social responsibility in each other and such organisations of people would be able to control the building operations or manage community developmental activities. Moreover, there are democratic bodies managed by the people and the members taking part in its working.

2.3 Different types of Co-operative Housing Societies are functioning in the Country. They are, the individual ownership type, tenant co-operatives and co-ownership or co-partnership type societies. The main task of these Societies is either to provide finance to its members and to leave the job of constructing the houses to them or the right of ownership remains with the Societies and the members simply enjoy the right to live in them and pay rent or construct houses in their name and thereafter let them out to the members who are joint owners of the building. In this country the individual ownerships Co-operative Housing Societies have won some popularity in which the members who own plots and the Societies advance long term loans for construction of houses repayable in easy instalments.

such as

2.4 In larger cities like Bombay, Madras and other places the Society purchases the plot and undertake the construction of houses and allot the houses to its members under Hire-Purchase system and provide all necessary facilities and management of these houses. In Mysore, the Housing Co-operative Societies functioning are financing its members for construction of houses on the plots owned by them. There are also other other societies functioning which take up the construction of houses and allot them to the members since the land is easily available and there is no problem so far felt for construction and as the members desired to have the ownership vested in them. The individual loans for construction of houses are more popular. Loans are also being made available for purposes of additions and improvements and also for the purchase of sites by the Primaries, thereby eliminating the swell in the land value. The Centrally sponsored Schemes of Low Income Group Housing and Middle Income Group Housing are being implemented for the benefit of the Co-operatives through the Apex Institutions. In Madras the House Mortgage Bank is advancing loans for House construction and for additions and improvements of houses.

2.5 The Housing Industry employs a huge labour, both skilled and unskilled workers, and it is seen that there is no proper co-ordination between the persons engaged in this work. It is desirable to organise Housing Co-operatives consisting of the artisans in Building Industry. It would not only ensure work for the labour and also eliminate the various difficulties arising namely the cost of labour and scarcity to meet the demand. It would also indirectly provide employment.

2.6 The Apex Finance Institutions functioning are to purchase building materials in bulk and release them to its Member-Primaries in addition to the financial assistance so that the cost of construction gets reduced.

3.0 Problems of Housing Cooperatives and suggestions for improvement.

3.1 The main drawback in the Housing Co-operatives is that of adequate finance. Though funds are made available, they are not sufficient to meet the demand. It is, therefore, necessary that both the Central and State governments have to channelise funds for the Co-operative Sector through the Apex Housing Finance Institutions functioning in respective States. The recommendation of the Working Group on Housing-Co-operatives constituted by the Ministry of Works and Housing, Government of India wherein it was recommended that 40% of the Plan

Funds to be earmarked for the Co-operative Sector should be implemented so as to provide sizeable amounts for the Co-operative Housing Sector. The Apex Institutions functioning should also raise finances by floating Debentures and from raising loan from Life Insurance Corporation. As a Co-operative Housing Federation is constituted, there is every hope of getting financial assistance from the Federation also.

3.2 Next to finance, the other difficulty is getting plots for house construction. The Apex Institutions functioning are seen, except in Mysore, are not advancing any loans for the Housing Co-operatives. It is desirable that the other Apex Institutions are to advance loans to its Member-Primaries for the purpose of purchase of plots so that the lands could be made easily available to Primaries at reasonable rates.

3.3 Both the State and Central Governments have to accord all incentives and concessions in the matter of providing preference in securing land. Lands are also to be acquired and given to Housing Co-operative Societies at reasonable rate. The Land Acquisition Proceedings are to be expeditiously disposed of to secure speedy benefits. The Local Bodies are to be directed to give preference to Housing Co-operatives in the matter of allotment of sites. These suggestions, if considered, to be implemented, would go a long way in providing plots to Housing Co-operatives.

3.4 The State governments and also the central Government should see that the Co-operative Housing activity is encouraged. For this purpose, incentives are to be given by exempting from the payment of Income tax and Municipal Taxes and Cesses to buildings owned by co-operatives and also its members. Concessions in respect of both stamp duty and registration charges are also to be given to the Co-operative Housing societies.

3.5 If all the above suggestions are fully implemented, it would go a long way in building up the Housing Movement in the country. As already indicated, a Co-operative Society is a democratic body fully managed by its members taking part from day to day activities, it would be a good agency for solving the housing situation in the country. Both the state and central governments have to provide all incentives and concessions so that the Co-operative Housing Movement is strengthened in the Country.

An Appraisal of Housing Co-operatives  
in the Southern Region\*\*

by

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This paper attempts at analysing the progress and problems of primary housing co-operatives in Southern Region. In fact housing co-operative movement in India, as also in this Region, is largely a post-independence phenomenon which received considerable impetus with the advent of economic planning. During the decade from 1958-59 to 1967-68 the progress made in this field by Southern Region, especially the States of Tamil Nadu and Mysore, is more impressive than that made by any other Region except, of course, the Western. Applying the three tests of soundness, creditworthiness and effectiveness during the period under study it is found that housing co-operatives have been moving on sound lines and their creditworthiness has been increasing steadily; but their effectiveness by way of construction of houses has not been encouraging. This leads to the study of important problems confronted by them with respect to finance, developed land, materials input, technical know-how etc.

In order to tackle these problems and enable the housing co-operatives to play a more effective role in the field of housing a few suggestions have been offered in a general way. The analysis concludes with the conviction that given the essential pre-requisites and extensive publicity, housing co-operatives will be capable of performing the task entrusted to them.

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\* The views in this paper have been expressed by the author in his personal capacity and not in his official capacity.

\*\* Shri P.S. Mathur and Shri Teja Singh of National Buildings Organisation have rendered valuable assistance in collection, compilation and tabulation of the statistical data. The analysis is confined to primary housing co-operatives only.



Conformity to democratic traditions through equality of opportunities, immunity from middleman's exploitation through non-profit mutual benefit and economic viability through collective action are the three fundamental virtues of a co-operative organisation. With great expectation that these three principles will strike deep roots into Indian soil the co-operative movement in our country was first launched under the benevolent tutelage of the then Government of Madras. But over a period of more than half a century it continued to bank upon public aid in gearing up private enterprise to various economic activities without bothering much about the essential pre-requisites for its success. The natural consequence was that its failures came to be more pronounced than its achievements. In view of financial handicap, input bottlenecks of non-financial nature, cumbersome legal as well as administrative procedures and lack of technical know-how, many co-operative societies failed to ensure economic viability and abused democratic privileges before the basic principle of non-profit mutual benefit could be put to fair trial.

Since the passing of the Co-operative Societies Act of 1912 the promotional endeavours in the field of co-operation started blooming primarily with respect to agricultural and industrial credit. Though the first of the housing co-operatives in India was set up in 1915 their effective appearance on the scene is discernible only from the forties of the present century. But this relatively late start did not enable them to enjoy the benefits of adequate infra-structure or worthwhile guidelines. As a matter of fact they started cruising through the same uncongenial atmosphere of hazardous uncertainty that surrounded the Indian co-operative movement in general. Consequently, they have not been able to reflect a different image of success in a society where 80% of the people are not able to pay for housing. This basic fact should be borne in mind before making any unbiased appraisal of the co-operative housing societies in Southern Region\*. It is in this spirit and context that this paper analyses the progress and problems of primary housing co-operatives in this Region and offers a few suggestions more for general consideration than for serving as cook-book recipes.

#### Comparative Status of Housing Co-operatives in Southern Region

That the co-operative organisation can stimulate large-scale house-building in the private sector by effecting economy in cost of construction and mobilising resources for mutual benefit have always been recognised by the Govt. and promoters of co-operative housing in India. But partly because of inadequate knowledge and partly because of practical difficulties in organisation and management the

\* Southern Region includes the States of Andhra Pradesh, Kerala, Mysore and Tamil Nadu as well as Union Territory of Pondicherry. ... 3/

co-operative ideal could not make considerable impact in the field of mass housing. Despite a number of promotional endeavours at public and private initiative the progress of housing co-operatives in India happens to be tardy and lop-sided. By and large their activities are confined to several rural and urban pockets more markedly in the Western and Southern Regions than in any other. The latest available figures for 1967-68 given in Table-I below show that Maharashtra, Gujarat and Tamil Nadu have the maximum concentration of housing co-operatives with the total number of 9648 societies and total membership of 475948 as against the corresponding all-India totals of 13817 and 893718 respectively. These three States of Western and Southern Region, therefore, jointly account for 69.8% of the total number and 53.2% of total membership of housing co-operatives in India.

Table-I

Concentration of Primary Housing Co-operatives in the three States of Western and Southern Regions.

Name of State	1965-66		1966-67		1967-68	
	No. of housing co-operatives	Total Membership	No. of housing co-operatives	Total Membership	No. of housing co-operatives	Total Membership
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Tamil Nadu	958 (8.1)	134914 (17.8)	958 (7.5)	134914 (16.5)	956 (6.9)	144311 (16.2)
Gujarat	2901 (24.6)	94460 (12.4)	3294 (25.8)	109961 (13.4)	3661 (26.5)	144798 (16.2)
Maharashtra	4073 (34.6)	178327 (23.5)	4486 (35.2)	190260 (23.3)	5031 (36.4)	244100 (27.3)
South Region	2219 (18.9)	308823 (40.8)	2277 (17.9)	326663 (40.1)	2387 (17.3)	379100 (42.4)
All India	11765 (100.0)	756808 (100.0)	12723 (100.0)	815612 (100.0)	13817 (100.0)	893718 (100.0)

Note: Figures in parenthesis indicate the percentage share of each State to the all-India aggregate.

Source: Statistical Statements Relating to the Co-operative Movement in India - 1965-66, 1966-67 and 1967-68. Reserve Bank of India.

Further, in a broad comparison of inter-Regional progress in this field it is found that the Status of Southern Region is considerably higher than all other Regions except, of course, the

Western Region in respect of some particular items. From the factual account given in Table-II below it is seen that Southern Region ranks only next to Western Region in respect of number and assets of housing co-operatives whereas it leads all other Regions including even the Western Region in respect of membership and number of houses built in the year 1967-68. Here it is interesting to note that with only 17.3% of total number of housing co-operatives in India, the Southern Region has been able to build 54.1% of total number of houses built by housing co-operatives in the entire country. The total number of houses built by the housing co-operatives of Southern Region (i.e. 7869) exceeds the total number of such houses (i.e. 6670) built in all the four other Regions together.

Table-II

Region-wise Position of Housing Co-operatives in 1967-68

Regions	Number of Housing Co-operatives.	Number of Members	Assets (Rs.000)	Total number of independent houses built (excluding tenements)
(1)	(2)	(3)	(4)	(5)
Northern Region	761	76526	182339	1996
Southern Region	2387	370163	406411	7869
Eastern Region	879	55236	85513	1784
Western Region	8699	331677	1655333	2402
Central Region	1091	60116	81335	488
All India	13817	893718	2410931	14539

Source: Ibid.

The share of Southern Region in the all-India growth of housing co-operatives is really worth mentioning. For example, this Region alone accounts for 17.3% of India's total number of co-operative housing societies, 41.4% of the total membership, 16.9% of total assets and 54.1% of total number of houses built in the year 1967-68. The detailed statistics regarding the state-wise position of these co-operative societies in 1967-68 have been presented in Appendix I.

Types of Housing Co-operatives in Southern Region and Facilities offered by them

In the Southern Region the co-operative ideal has been able to encourage local enterprise for undertaking variety of housing co-operatives either on individual ownership system or co-partnership tenancy system. The third system of flat-ownership is  $\Delta$  unknown in this  $\Delta$ more region. The principal types of housing co-operatives  $\Delta$ less functioning in the urban and rural areas of this Region can be enumerated as follows:-

(i) Co-operative Building Societies

These societies function on individual ownership basis and extend long-term loans to their members who take up construction of houses on their account. Sometimes they also develop building sites for allotment to members as well as provide assistance in the procurement of building materials.

(ii) Co-operative House Building Societies

These societies also function on individual ownership basis, but unlike the first type they undertake construction of houses themselves as agents of their members. Purchase and allotment of land as well as preparation of layouts and building designs constitute their usual functions.

(iii) Co-operative House Construction Societies

These societies function on co-partnership tenancy system. They acquire land, develop building sites, construct houses of approved designs and allot them to their members on hire purchase basis. The ownership of the houses vests with the societies which also provide common amenities like roads, drainage, water supply, lighting etc.

(iv) Co-operative Township

The distinctive feature of this type of societies is that they not only undertake construction of houses for their members but also develop self-contained colonies with all the civic amenities of a municipal town. They either let out houses to members or sell them on outright and hire purchase terms.

(v) Tenancy Housing Societies

Sponsored by educational trusts or institutions they undertake construction of houses for providing accommodation to their staff on rental basis. The ownership of houses always vests with the societies.

(vi) House Mortgage Banks

The usual facilities provided by these house mortgage banks include grant of loans on the mortgage of built-up houses in order to defray the expenses of maintenance, additions and alterations or to liquidate prior debts. They also sell to their members, either on outright sale or hire purchase terms, those houses which are built out of their surplus funds.

(vii) Rural Housing Societies

These societies, functioning on individual ownership system, resemble very much the co-operative building societies already mentioned above. The maximum permissible limit of loans sanctioned by them to any individual member is Rs.750. Moreover, they enjoy some special facilities whereby they can receive greater extent of loans and subsidies from the Government in view of their financially weaker position. In Southern Region, especially in Tamil Nadu, these rural societies are increasing in number and membership playing thereby a significant role in implementing the Village Housing Scheme.

(viii) Co-operative Industrial Housing Societies

Following the co-partnership tenancy system these societies function as the agencies for implementation of the Subsidised Industrial Housing Scheme of the Govt. of India. The societies themselves construct the houses with the loans and subsidies provided by the Government and allot them to their members on hire purchase basis thus making the latter ultimate owners after the expiry of the amortization period which is usually 28 years. All industrial workers are eligible to be member beneficiaries of these societies provided they are covered by the Factories Act of 1948 or Mines Act of 1952 and their monthly income does not exceed the maximum statutory limit of Rs.350.

Co-operative housing societies are now extending their fold by utilising liberal Governmental assistance for implementation of other Social Housing Schemes such as the Low Income Group Housing Scheme, Middle Income Group Housing Scheme and Scheme for House Building Advances for Central Government Servants. Housing co-operatives are also organised for the benefit of various backward classes, scheduled castes and tribes. Governmental assistance for these societies are much liberalised with respect to quantum of loans and subsidies, interest rates, loan/value ratio, amortization period etc. But these miscellaneous co-operative societies have not been able to make noticeable progress in this Region as compared to the Western Region.

In short, the following important facilities are offered by the various housing co-operatives in the Southern Region:-

- (a) Provision of long term loans for construction of houses in urban and rural areas.
- (b) Provision of developed land on lease-hold or free-hold basis for construction of houses at prices relatively cheaper than market prices.
- (c) Provision of building materials at reasonable prices.
- (d) Provision of service facilities such as technical assistance and legal advice at nominal charges.
- (e) Provision of housing on outright sales or hire purchase terms as well as on tenancy basis.
- (f) Provision of amenities such as roads, drainage, water supply, lighting, parks, shopping centres etc.

#### Progress of Housing Co-operatives in Southern Region

Historically speaking the year 1924 when the erstwhile Madras Province undertook schemes of co-operative housing for middle-class population in urban areas, can be taken as the dawn of this movement in Southern Region\*. But during the next two decades this starting signal could not produce any appreciable response either within the province itself or its neighbouring provinces. By and large the housing co-operative movement in this Region, as also in the country at large, can be regarded as mostly a post-independence phenomenon. The principal reason why this movement started gaining momentum only after 1947 is not very far to seek. Public initiative and public aid largely accounted for the origin and development of housing co-operative movement in our country. Hence the establishment of a national Government in 1947 paved the way for increased Governmental assistance towards development of housing co-operatives as part of the programme for meeting the challenge of housing problem. That is why the progress was found to be more pronounced in those States like Tamil Nadu where the Government could provide more funds and facilities than what was possible in other States.

Furthermore, the conditions and circumstances in the post-Second World War period provided considerable impetus to the growth of housing co-operatives in this Region. As a matter of fact the post-war period brought in its trail the distressing trends of rising prices,

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\* Of course in 1913-14 some action was initiated in this direction for setting up building societies at Coimbatore in Madras State.

mounting unemployment and increasing migration of population to urban areas which provided new avenues of employment as a result of increased industrialisation and expansion of Governmental machinery. The net result was a steep rise in the urban housing demand which pressed very hard on the relatively inelastic supplies of land and building materials pushing up their prices. Curiously enough, these factors produced a very depressing effect on the supply side of private sector housing. Because, for the bulk of private individuals the costs of land and building construction rose to prohibitive levels whereas for those who could afford spare funds, housing investment lost much of its charm due to decline in net returns. At this juncture the Government, in their anxiety to accelerate mass construction of housing, wanted to supplement increasing public housing activity with additional efforts for co-operative housing in a big way. The advent of economic planning from 1950-51 added new dimensions to the co-operative housing movement by way of strengthening the financial base for co-operative financing institutions, liberalisation of loans and subsidies and provision of technical assistance, training facilities etc.

For all practical purposes, therefore, the two decades of the fifties and sixties of present century may be regarded as significant enough for the housing co-operatives in Southern Region; since these two decades witnessed them struggling in the various sectors to gain momentum for all-round progress in the coming years. The earlier decade of the forties, however, carried only the excitement of new experiments without much indications about future. For our present study we shall have a birds' eye view of progress in this field during the decade from 1958-59 to 1967-68 so as to obtain a cross-section of trends and performance which substantiates the above statement.

Let us start with a broad view of the position of housing co-operatives in 1957-58 when there were 959 housing co-operatives in Southern Region with 79214 members assets to the tune of Rs.121837 and 11347 houses constructed. For construction of various indices of progress as shown in Appendix II & III this year is taken as the base year. However, from the factual account produced in the tables below it is found that the position prevailing in 1953-59 (i.e. the first year of the decade under study) includes 1027 housing co-operatives with 89901 members, assets valued at Rs.140230 and 7148 houses constructed. The corresponding position prevailing in 1967-68 (i.e. the last year of the decade) shows 2387 housing co-operatives with 370163 members, assets valued at Rs.406411 and 7869 houses constructed. The State-wise break-up of these items in the first and last years of this decade can be

seen in the following table:-

Table-III

State-wise Progress of Housing Co-operatives in Southern Region

(Reference periods 1958-59 and 1967-68)

Southern Region	Position of Housing Co-operatives in 1958-59				Position of Housing Co-operatives in 1967-68			
	Number of Societies	Membership (No)	Assets (Rs.000)	Number of houses constructed.	Number of Societies	Membership (No)	Assets (Rs.000)	Number of houses constructed.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Andhra Pradesh	274	25037	38758	3030	557	62647	102318	595
Kerala	24	1652	2415	174	81	6224	17268	290
Mysore	305	28206	17624	3831	790	155491	79929	4931
Tamil Nadu	423	34775	81288	600	953	144612	200549	2018
Andhra Pradesh - Mysore	1	231	145	13	3	1189	6354	35
Total Southern Region)	1027	89901	140230	7148	2387	370163	406411	7869
India -	4739	279925	481570	21501	13817	893718	2410931	14539

Source: Reserve Bank of India.

Table-III above shows that in 1958-59 Tamil Nadu used to lead all other States of Southern Region in all respects except only the number of houses constructed. But the position changed considerably in favour of Mysore in the year 1967-68 when with respect to membership and number of houses constructed it could go ahead of Tamil Nadu. The fact that starting later than Tamil Nadu in this field Mysore could cover much ground over a period of one decade, goes to the credit of this State. But the position of Andhra Pradesh at the end of the decade appears to be a little depressing as compared to that at the beginning. In spite of the number and membership of housing co-operatives showing more than two-fold increase the number of houses constructed showed about 24% decline. In 1958-59 the position of this



State was very close to that of Mysore but within the lapse of 10 years it came to lag far behind the latter in all the items included in the table above. Whether this slowing down of the pace of progress is due to reduction in the financial allocation for housing co-operatives or any other difficulty needs careful consideration in order that co-operative housing activity may be accelerated in this State. Besides, both Kerala and Pondicherry being at the cradle of the co-operative housing movement call for a bolder leap forward so as to come to the levels of sister States like Tamil Nadu and Mysore.

The yearwise progress of housing co-operatives in the Southern Region during the decade under study can be observed from the figures given in appendix-II. The corresponding figures of year-wise progress in the country as a whole have been presented in Appendix-III. From Appendix-II it is found that with respect to Southern Region the indices of progress regarding number of housing co-operatives, their membership loans and assets have been showing a steadily rising tendency since 1958-59. But with regard to number of houses constructed by the Societies the indices show an erratic trend culminating into steady decline in the successive years of 1966-67 and 1967-68. With regard to the number of houses constructed by the members the indices reflect a depressing picture of more 'downs' than 'ups' ending with a steady rise in the last year of the decade over the preceding year 1966-67. But still the index of 85.1 for 1967-68 is only slightly higher than the index of 83.3 for 1958-59 indicating thereby a virtually stagnant position over the decade under study. Curiously enough, the corresponding indices of progress for the country as a whole (given in Appendix-III) also reflect similar tendencies during this decade with the only difference that the number of houses constructed by members indicate a steep decline between 1958-59 and 1967-68.

In the light of the facts and figures presented above we may now attempt a general evaluation of the progress of housing co-operatives in Southern Region during the above-noted decade by applying the three following steps:-

- (1) The test of soundness on the basis of assets and liabilities position.
- (2) The test of credit-worthiness on the basis of per capita borrowings-working capital ratio.
- (3) The test of effectiveness on the basis of number of houses constructed.

Applying the first test we find that their assets and liabilities position have shown steady improvement during the decade. For example at the end of June, 1959 the housing co-operatives of this Region had Rs.1402.3 lakhs worth of assets and total liabilities to the tune of Rs.1396.2 lakhs whereas at the end of June, 1968 the corresponding figures increased to Rs.4064.1 lakhs and Rs.4020.3 lakhs respectively. That is to say, the assets increased by about 190% while the liabilities rose by about 183%. This clearly indicates that the co-operative housing societies are developing on sound lines and are capable of shouldering greater financial responsibilities in future.

While applying the second test of credit worthiness\* in this Region it is found that the ratio of per capita borrowings to per capita working capital has recorded an increase from 0.636 in 1958-59 to 0.655 in 1967-68. This rise in the above ratio indicates that the credit worthiness of the primary housing co-operatives has increased over the decade under study.

But application of the third test of effectiveness on the basis of number of houses constructed shows a depressing result as already discussed above in the light of the figures given in Appendix -II. We are, therefore, driven to the conclusion that inspite of increasing soundness and rising creditworthiness the housing co-operatives have not been able to become more and more effective because of some practical problems that inhibit construction of houses by themselves as well as their members. It is, therefore, necessary to study at least the important problems and find out the means to tackle them. Otherwise, mere increase in number, membership or financial strength will not ensure the fulfilment of their main objective i.e. housing development.

#### Principal Problems faced by Housing Co-operatives

In this Region primary housing co-operatives have to face numerous general as well as local problems; but within the brief span of this paper we shall try to encompass only the principal problems of general importance. Though they are discussed below in order of 'interse' priorities it should be remembered that they are actually inter-related and as such require an integrated approach for tackling them successfully.

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\*Creditworthiness is defined as the ratio of borrowings per capita to working capital per capita.

Firstly, financial difficulty poses the most baffling problem for the housing co-operatives in this Region. Because of a very low order of share capital and local deposits these societies have to depend mostly on funds borrowed from the Government, Apex Co-operative Housing Finance Societies and similar other State level financing agencies. Because of procedural delay involved in their dealings with public authorities, local bodies and financial institutions the housing co-operatives at times find it difficult to raise even these inadequate resources without considerable time-lag. Legal procedures and red tape sometimes run in months and years pushing up the total cost of construction apart from increase in administrative expenses. Actual rise in cost sometimes exceeds the originally envisaged cost and thus creates a serious problem of paucity of funds.

Secondly, acquisition, development and disposal of land create the next important problem that impedes the dynamism of urban co-operative housing by raising various legal and administrative issues. Many housing co-operatives in the cities formulate their plans by underestimating land prices and overlooking the time-lag involved in getting developed land (which is generally 7 to 10 years). The rise in land prices due to delay, the fees paid to lawyers and courts of justice of in/disputes etc. actually increase burden of the members of societies who ultimately find the transactions much less attractive than what has been originally conceived.

Thirdly, rising prices of important building materials as well as bottlenecks in their supply very often inhibit construction of houses by the co-operative societies and their members. Ignorance about new and cheaper substitutes for some costlier and conventional materials, also aggravates the situation.

Fourthly, the housing co-operatives are also handicapped by the non-availability of technical know-how for the specialised jobs of lay-out planning, standard designing, preparation of economical building plans within the permissible limits of the municipal bye-laws. It is not always within the means of an individual co-operative society to afford the services of experienced architects and engineers. The question of local expertise also poses similar problem.

Fifthly, the problem of organisation and management is created by the absence of trained and experienced staff meant for specialised jobs. This problem may be serious enough to bring the society to the verge of liquidation or provide loopholes for exploitation of the uninformed majority by the clever minority. Again if proper care is not taken in specifying the functions of parallel institutions of the State-level (e.g. State Housing Board and Apex Co-operative Organisation) conflict of jurisdiction and overlapping of functions may create difficulties.

Sixthly, the problem of ignorance, apathy and misunderstanding among the members creates practical difficulties in promoting and running a housing co-operative society on sound lines. Just as the success of democracy depends on enlightened as well as active electorate, the success of co-operative societies also depends on enlightened and active membership. Those who are not aware of the do's and don'ts about the co-operative institutions cannot be expected to participate in the right manner for their origin and development.

#### Suggestions Regarding Better Conditions for Success -

After making an appraisal of the progress and problems of housing co-operatives in this Region a few suggestions may, now, be offered with a view to creating better conditions for their success. Firstly, the problem of finance can be solved by mobilising resources from both public and private sources. The quantum of public aid being the main prop for housing co-operatives should be increased. Of course, even in many developed countries like the U.K., Canada and Japan as well as Scandinavian countries Government funds play a vital role in mobilisation of resources by the co-operative organisations.

It is, therefore, advisable that both the Central and State Governments should earmark more funds for housing co-operatives preferably to the extent of 20% to 25% of their funds allocated under housing schemes. The Working Group on Housing Co-operatives which was constituted by the Ministry of Works, Housing and Supply in 1964 recommended that this minimum proportion should be raised even to 40% in case of those States where co-operative housing has made good progress. As a natural corollary of this suggestion the Government policy should be oriented towards encouragement of housing co-operative also in spheres other than that of social housing schemes. By that way a stage will come when the Government will be in a position to make compulsory provision for reserving any one fourth or one fifth of total resources available for housing exclusively for the co-operative sector. Interest subsidy, higher loan/value ratios and longer amortization period should be more extensively resorted to for stimulating mass co-operative housing for economically weaker sections of the community.

Nonetheless, Government loans and subsidies have their limitations and as such need to be supplemented by private finance. In order that the housing co-operatives may strengthen the self-sustaining basis of their resources by mobilising private savings as well as attracting long-term loans from institutional agencies the system of government guarantee should be tried more extensively in all the States and Union Territories of Southern Region. Under Government guarantee the apex co-operative housing finance societies can more effectively raise funds by issuing debentures apart from obtaining long-term accommodation from the LIC, Provident Fund, Trust Fund etc. The experience of Mysore is an instance to the point. Moreover, it will, then, be possible to attract

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more deposits from the public as well. In Japan the mortgage insurance scheme has been able to break through the conservatism of commercial banks in extending credit for housing and this may also be tried in India where the nationalised banks may extend their activities in this new sphere. Of course the Reserve Bank will have to remove the legal hindrance which prohibits a commercial bank to grant loans on the mortgage of any immovable property for a period exceeding seven years.

Secondly, in order to tackle the problem of land the State Governments and local Authorities should give priority treatment to the housing co-operatives with regard to allotment of land and their development with facilities like roads, water supply, sewerages, drainage etc. Speedy acquisition of land by avoiding lengthy procedures and earmarking of plots for co-operatives in composite colonies are some of the positive steps that should be taken as early as possible. After acquisition the transfer of title deeds to the societies should be expedited. The system of transferring acquired land to co-operatives under a lease-cum-sale agreement, as followed by Tamil Nadu, can be tried also in other States of this Region.

Thirdly, the State Governments and Apex Co-operative Societies should assume more responsibilities for the timely supply of building materials to housing co-operatives at reasonable rates. The State Governments should give priority to the housing co-operatives regarding allotment of essential building materials and wherever possible should also earmark separate quotas to be released preferably in bulk rather than in instalments. With respect to scarce building materials like cement, steel etc. the Apex Housing Societies should make bulk purchase of these materials to build up buffer stocks at the State level which may be distributed to their member societies. Co-operatives for the manufacture of building materials may also be started when the demand for them reaches sizeable volume. Again, both the Government and the Apex Societies should take active interest in the utilization of the results of latest research work regarding new building materials disseminated by the National Buildings Organisation.

Fourthly, the solution of the problems about technical know-how and legal expertise depend largely on how and to what extent these services (at nominal charges) can be organised by the State Governments and/or Apex Societies at the State-level. What particular arrangement will suit which State will be determined by the conditions prevailing there.

Fifthly, the problem of organisation and management can be tackled by strengthening the decentralised training facilities at present available in the country and making them specially oriented towards practical job-requirements.

Facilities of in-service training and inter-State discussion forums should be thrown open not only to the high level staff but also to selected staff at lower levels. Besides, the Registrars of Co-operative Societies at State-level may equip their offices with nucleus cells of trained and experienced staff whose services (at nominal charges) may be requisitioned temporarily for the benefit of those housing co-operatives who are seriously handicapped by the non-availability of trained personnel. Of course, the stupendous task of providing training facilities throughout the country may be performed successfully only through co-ordinated efforts by the Government, National Co-operative Union and other federations of co-operative organisations.

Sixthly, there is an imperative need for country-wide publicity and mass propaganda for dissemination of knowledge about co-operatives as well as creation of an awareness to co-operative way of life. A few countries in the West have started imparting knowledge of co-operation through the medium of educational institutions. In our country an average educated man knows very little about co-operative organisation. This ignorance strikes at the very root of co-operative spirit. When we can devote so much money and efforts to all-round publicity in the field of family planning there is no reason why similar attempts should not be made by the Government, State Housing Boards, Apex Societies and federations of co-operative organisations.

Lastly, regarding the number of houses constructed, positive steps should be taken to increase the direct responsibility of co-operative societies so that their share in the total number of houses constructed (vide details given at Appendix IV) increases to a great extent. This will go a long way in effecting economy through group action and standardisation and at the same time increasing the faith of the members in the society due to tangible benefits.

### Conclusion -

From the foregoing analysis it is evident that since Indian independence the housing co-operatives in Southern Region have been gaining momentum through subsequent stages of post-war construction and planning era. Their individual progress may not be remarkable from the standpoint of absolute magnitude, but looks definitely impressive as compared to progress in other Regions. The important conclusion that emerges is that the steady growth of housing co-operatives in Southern Region during the decade under study, has laid down the co-operative base for mass housing activity to which adequate teamwork of public aid and private enterprise needs to be geared. The experiences of Tamil Nadu and Mysore lead us to believe that given the 'sine qua nons' as outlined above the housing co-operatives, as co-partners of our national co-operative

movement, will be able to play a significant role in providing better housing at reasonable cost for the benefit of bulk of our people. The experiments carried out in many foreign countries such as the U.K., Canada, Sweden, Denmark etc. amply demonstrate that co-operative organisations can stimulate house building on a mass scale by ensuring economy and effecting standardisation provided institutional sources are organised for adequate co-operative finance. The building societies of U.K., savings and loan associations of U.S.A., mortgage credit associations of Denmark are some of the success stories that provide sufficient encouragement and enlightenment to us.

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APPENDIX - I

Statewise position of Housing Co-operatives in India during 1967-68

State/Region	No. of Housing Co-operatives	No. of members	Assets (Rs.000)	Loans (Rs.000)	No. of houses constructed by Housing Societies.	No. of houses constructed by Members
<u>Eastern Region</u>						
Assam	4	131	7	-	-	-
Bihar	72	8630	43679	5333	45	226
Madhya Pradesh	479	14410	13270	10175	-	1275
West Bengal	319	31921	28504	3585	22	216
Andaman & Nicobar Is.	1	18	5	-	-	-
Kerala	2	55	13	7	-	-
Tamil Nadu	2	71	35	-	-	-
<b>Total East Reg.</b>	<b>879</b>	<b>55236</b>	<b>85513</b>	<b>19100</b>	<b>67</b>	<b>1717</b>
<u>Western Region</u>						
Gujarat	3661	122797	727995	114333	348	925
Madhya Pradesh	5031	208539	923867	214291	581	466
Goa-Daman	7	341	3471	-	82	-
<b>Total West Reg.</b>	<b>8699</b>	<b>331677</b>	<b>1655333</b>	<b>328624</b>	<b>1011</b>	<b>1391</b>
<u>Northern Region</u>						
Uttar Pradesh	77	5287	5658	1832	1	-
Haryana	1	33	82	154	-	-
Rajasthan	157	7347	14218	7982	242	103
Madhya Pradesh	243	14774	12958	5913	5	13
Madhya Pradesh	6	387	523	-	10	-
Bihar	274	48635	148771	114	-	1622
Uttar Pradesh	3	63	129	58	-	-
<b>Total North Reg.</b>	<b>761</b>	<b>76526</b>	<b>182339</b>	<b>13053</b>	<b>258</b>	<b>1738</b>
<u>Southern Region</u>						
Andhra Pradesh	557	62647	102318	58043	108	487
Kerala	81	6224	17268	6173	203	87
Tamil Nadu	956	144612	200542	118309	784	1234
Karnataka	790	155491	79929	52361	592	4339
Madhya Pradesh	3	1189	6354	3585	-	35
<b>Total South Reg.</b>	<b>2387</b>	<b>370163</b>	<b>406411</b>	<b>238471</b>	<b>1687</b>	<b>6182</b>

Appendix I contd.....

Central Region

Madhya Pradesh					
309	33754	69005	31703	223	138
Uttar Pradesh	692	26362	12330	2953	13
114					
Total Cen. Region.	1091	60116	81335	34656	236
252					
All India	13812	893718	2410931	636904	3259
11280					

Source: Statistical Statements Relating to the  
Co-operative Movement in India - 1967-68  
Reserve Bank of India.

Year-wise Progress of Housing Co-operatives in Southern Region during Decade  
(1958-59 --- 1967-68)

Base Year - 1957-58)

Year	Number of Housing Co-operatives.	Indices	No. of Mem-bers	Indices	Assets (Rs.000)	Indices	Loans (Rs.000)	Indices
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1957-58	956	100.0	79214	100.0	121837	100.0	56732	100.0
1958-59	1027	107.4	89901	113.5	140230	115.1	68539	120.8
1959-60	1178	123.2	104561	132.0	174328	143.0	80474	141.8
1960-61	1359	142.2	122387	154.5	195326	160.3	94686	166.9
1961-62	1550	162.1	144607	182.6	200982	164.9	108211	190.7
1962-63	1767	184.8	177900	224.6	202966	166.6	127514	224.8
1963-64	2039	213.3	243449	307.3	261948	215.0	152682	269.1
1964-65	2124	222.2	280755	354.4	316184	259.5	172165	303.5
1965-66	2219	232.1	308823	389.9	349244	286.6	191953	338.4
1966-67	2277	238.2	326663	412.4	379414	311.4	242058	426.7
1967-68	2387	249.7	370163	467.3	406411	333.6	238471	420.3

contd.....

Year	Number of houses	Indices	Number of houses	Indices
	constructed by societies		constructed by members	
	(10)	(11)	(12)	(13)
1957-58	4078	100.0	7269	100.0
1958-59	1090	26.7	6058	83.3
1959-60	1304	32.0	4588	63.1
1960-61	911	22.3	3702	50.9
1961-62	922	22.6	3817	52.5
1962-63	3517	86.2	6702	92.2
1963-64	5940	145.7	4472	61.5
1964-65	7229	177.3	6447	88.7
1965-66	4413	108.2	4392	60.4
1966-67	4056	99.5	4314	59.3
1967-68	1687	41.4	6184	85.1

Source: Reserve Bank of India.

Year wise progress of Housing Co-op natives in India during the Decade  
(1958-59 --- 1967-68)

(Base Year- 1957-58)

Year	No. of Housing Co-operatives	Indices	Number of members	Indices	Assets. (Rs.000)	Indices	Loans (Rs.000)	Indices
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1957-58	4172	100.0	247883	100.0	408638	100.0	107345	100.0
1958-59	4739	113.6	279925	112.9	481570	117.8	129183	120.3
1959-60	5558	133.2	320188	129.2	584584	143.0	151280	140.9
1960-61	7877	188.8	378937	152.9	692930	169.6	181960	169.5
1961-62	7877	188.8	454573	183.4	815324	199.5	215201	200.5
1962-63	9886	237.0	523026	211.0	1070359	261.9	251630	234.4
1963-64	10975	263.1	620058	250.1	1345829	329.3	281489	262.2
1964-65	10975	263.1	697206	281.2	1546256	378.4	312025	290.7
1965-66	11765	282.0	756808	305.3	1759380	430.6	372997	317.4
1966-67	12723	305.9	815612	329.0	2152541	526.7	658631	613.5
1967-68	13817	331.2	893718	360.5	2410931	590.0	636904	593.3

Source: Ibid.

contd....2

Appendix-III contd.....

Year	Number of houses constructed by Socialists	Indices	Number of houses constructed by members.	Indices
	(10)	(11)	(12)	(13)
1957-58	7397	100.0	21632	100.0
1958-59	4116	55.6	17385	70.6
1959-60	5356	72.4	13768	55.9
1960-61	2766	37.4	11187	45.4
1961-62	4694	63.4	10588	43.0
1962-63	9382	126.8	13167	49.3
1963-64	10211	138.0	13390	56.4
1964-65	13414	181.3	11450	58.7
1965-66	6666	90.1	10121	42.3
1966-67	6439	87.0	9102	37.0
1967-68	3259	41.1	11280	15.8

A P P E N D I X - I V

Relative share of Societies and Members in the Number of Houses  
Constructed in Southern Region.

(Period from 1958-59 to 1967-68)

Years	Number of Houses constructed by Societies	Number of Houses Constructed by members	Total	% of column (2) to column (4)	% of column (3) to column (4)
(1)	(2)	(3)	(4)	(5)	(6)
1958-59	1090	6058	7148	15.2	84.7
1959-60	1304	4588	5892	22.1	77.8
1960-61	911	3702	4613	19.7	80.2
1961-62	922	3817	4739	19.4	80.5
1962-63	3517	6702	10219	34.4	65.5
1963-64	5940	4472	10412	57.0	42.9
1964-65	7229	6447	13676	52.8	47.1
1965-66	4413	4392	8805	50.1	49.8
1966-67	4056	4314	8370	48.4	51.5
1967-68	1687	6184	7871	21.4	78.5

Source: Ibid.

# BUILDING BYE-LAWS AND URBAN HOUSING AND BUILDING ACTIVITIES IN SOUTHERN REGION

by

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## Summary

(The paper brings out the diversity of building bye-laws in the region and emphasises the need for unification of these laws and a suitable machinery for their execution in order to remove one of the impediments in the organised development of this industry. Also the paper points out the need for continuous revision of these laws every five years to account for the changes in technology of building construction activity. For evolving bye-laws at the State and lower levels National Building Code prepared by the Indian Standard Institution has been suggested to be drawn upon.)

## 1.0 Introduction

1.1 The number and types of urban local bodies in the four states of the Southern region are as below:

- (i) Andhra Pradesh - There is one Corporation and 127 Municipalities which include both town and city municipalities of Telangana and the municipalities of Andhra region.
- (ii) Kerala - There are two Municipal Corporation, 28 Municipalities and one Town Area Committee.
- (iii) Tamil Nadu (Madras) - There is one Corporation and 80 Municipalities.
- (iv) Mysore - There are two Corporations and 133 Municipalities and 9 Notified Area Committees.

It will be seen, therefore, that apart from seven municipal corporations in the Southern region, there are 190 urban local bodies which control building activities. There is a total of over two thousand urban local bodies in the country. That means 1/5th of urban local bodies of the country are located in the Southern region. As the control and regulation of building activity would vest with the municipalities through



building byelaws it is, therefore, necessary that the byelaws of urban local bodies including both municipal corporations and municipalities be brought to a fairly high technical level keeping in view the advances in techniques of construction, availability of building materials, new design procedures etc. It is also necessary that these byelaws be unified so that unnecessary divergencies among them are worked out. This will straight away solve one of the major problems of building construction activity which is impeded by variation of building byelaws from city to city, corporation to corporation. This is a very unhealthy trend in development and quite often there is no scientific basis for such variation.

1.2 In the recent past, for the orderly development of urban areas, Town Planning Acts have been enforced in various cities and the position regarding the four states is given below:

- (i) Andhra Pradesh - Town Planning Department functions both at the state and regional level. The Department prepares Master Plans for Hyderabad and Secunderabad and regional plans around these twin cities. It also prepares Master Plans for select grade municipalities of the state. The department at the state level is also expected to function as an advisory and suggestive body in the preparation of Master Plans, Regional Plans, Detailed Town Planning Schemes, Layouts, Typo-designs, building regulations etc. for municipalities and gram Panchayats. It is therefore, seen that Andhra Pradesh has set a fairly comprehensive scheme in town planning at different levels of local bodies, same is, either municipal corporations, or municipalities or Gram Panchayats.
- (ii) Kerala - Kerala has also set up a department of town planning by the state government. The activities of the department are supposed to cover the entire state.
- (iii) Tamil Nadu (Madras) - Madras has also set up a town planning department and it is expected to look after town planning activities in the entire state. Under the Town Planning Act, each municipality is expected to appoint a Town Planner. The Department is expected to prepare Master Plans for towns as well as regional plans.
- (iv) Mysore - Mysore has also a Town Planning Department and this department is expected to develop Master Plans for the entire State.

1.3 The position of municipal services obtaining in these four Southern states is as given below:

Andhra Pradesh - Andhra Pradesh has unified system of municipal services. This includes senior posts of Municipal Health Officer, Municipal Engineer and Town Planner in a municipality. The appointment to these posts are made by the State Government. The Health and Engineering Services are combined integrated services for the posts in the State Medical, Health and Engineering Services as well as the posts of corresponding status in the various grades of municipalities.

Kerala - In Kerala the engineers, architects and other officers are appointed by the Municipal Corporation. In the case of Municipalities the engineers, health officers etc. are appointed by the State Government and they are government staff.

Tamil Nadu (Madras) - The State Government usually appoints the Health Officer, Municipal Engineer and other Engineers in the municipalities. The State Government can also transfer municipal staff from one municipality to the other. For the Corporations, again the recruitment etc. are under the State Government.

Mysore - The appointment of the Health Officer, Engineers, Architects, Town Planners etc. are made by the Corporations with the sanction of the State Government. Regarding municipalities, the officers are drawn from the departments of the State Governments.

The above picture shows that though there is an attempt in the direction of drawing the technical personnel of both corporations and municipalities to a certain extent from the state cadre of service. It is however, not all over the entire region. It is, therefore, necessary the effective enforcement of building by-laws, the municipal engineers, architects, etc. should have the freedom to interpret and enforce the by-laws in the best interest of the community and keep in view the spirit of the by-laws.

## 2.0 Building by-laws

2.1 The absence of uniform by-laws for building activity hampers the faster growth. It is felt that there is a need for taking up vigorously the question of not only the preparation of Master Plans/different regions but also the development of building by-laws for the cities. This might be done after necessary consultation with the local bodies so that the special problems of the local bodies are catered to. The work of evolving building by-laws may be entrusted to town planning departments to achieve cohesion in the various stages of planning.

2.2 Apart from developing rational modern building byelaws, it is necessary that they should be enforced by competent staff technically qualified so that they could enforce the byelaws in the spirit in which they are intended. For this purpose, therefore, it is necessary that the municipal engineer, the health officer or other engineers necessary to fulfilling the activities of the corporations, that is, enforcement of building byelaws, should be borne on a cadre of service either on the general state cadre or a separate municipal cadre.

2.3 It is not enough for building department that municipal engineers are borne on the state cadre service but other supporting staff of slightly lower level who are doing the routine work particularly of approval of plans should also be qualified suitably and be in the sound footing regarding cadre of service. Unfortunately this does not appear to be so. The posts at the lower level are under the jurisdiction of the local body and this might not always assist in the appropriate enforcement of the building byelaws.

### 3.0 Development of Building Byelaws

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3.1 The actual writing up of such a set of byelaws by a central agency, assistance can be derived from the National Building Code of India which has made a similar attempt to unify the building byelaws on the countrywide basis. For the preparation of the byelaws included in the National Code, fairly extensive studies of the existing byelaws from all the major municipal corporations and other municipalities have been made. It is also necessary that building byelaws should be continuously revised after every five years and in between periodical amendments should be issued to cope up with the latest trends in building construction. This is of paramount importance because in the context of the scientific activities new materials, new methods of construction and new methods of design are coming into vogue and since these building byelaws regulate the building activity within their areas of jurisdiction, it is necessary that they should match these new innovations in building construction. Unfortunately the building byelaws are not unified and this is a hurdle in the orderly growth of urban housing. It is also noticed that in the present trend of multi-storied buildings in major cities, the building byelaws have to cope up with the advanced concept of floor area ratios, and also the city planners should think of the services that have to go hand in hand with vertical development. This brings out the picture that apart from the development of building byelaws and enforcement of the same, other services which make possible the enforcement of the same are water supply, drainage, electric supply and fire fighting services of a city. It is necessary therefore that these services departments should be well maintained and their capacity to be increased to keep pace with the demand of building activities in urban areas so that maximum advantage could be taken of the

new concepts of multistorey construction. Without these services, it would be wrong to go for multistorey construction since the amenities intended for the occupants of multistorey buildings would not be available. This would bring out a question of integrated plan for each city through the town planning department or a local municipal body to develop the services when the building byelaws are being modernised.

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\* The Planning Commission had set up an Expert Panel to examine the construction costs and find out areas of economies that could be attempted. The exhaustive study of the same by Maj Gen Harkirat Singh through a Panel of Experts have revealed a number of areas where such economies could be attempted, that is, administrative, contractual and technical. These findings are published in the report 'Economies in Construction Costs'. In this report, they have emphasized one major area, that is unification of the building byelaws of local bodies which has been an impediment in the organised development of building activities in the country as a whole. Consequently the planning Commission/the Indian Standards Institution to develop a National Building Code which would unify these municipal byelaws and project the building byelaws at a national level for adoption by local bodies in the country. The National Building Code is now ready.

Architecture in Relation to Socio-Economic  
Needs-with special reference to southern  
Region of India.

by

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Summary

(The paper brings out the imbalances in urban life and the 'urban ills' arising out of the unprecedented population growth needing a suitable strategy of urbanization. The changing development situation of the metropolitan cities has to be viewed as an integrated and dominant aspect of the pattern of development of the region as a whole, for a metropolis provides vital economic functions and social services for its hinterland. Effective relief from the current 'urban ills' can be had only if the entire region is developed. There is a need to establish a proper relationship between urban growth and economic development of the country and realistic plan and the method of implementation. The paper emphasises that the question of urban development must be dealt with as a part of perspective spatial planning. Plans for metropolitan cities must identify the action areas to be planned for the next 10-20 years. The entire southern region- comprising the States of Kerala, Andhra Pradesh and Tamil Nadu has been demarcated into 16 potential metropolitan regions in accordance with the K-7 theory for the purpose of development.

In view of the severe constraints of funds available and the economic condition of the vast majority of urban population in the southern region the paper brings out that the type of housing in the cities and towns of the region has to be massive housing of non-permanent nature, provided with a properly planned infra-structure of basic services and community facilities. It further points out that high rise housing is still ill-suited to our cities because of its high cost which only the affluent section of our society can afford. The only alternative is to adopt a type of housing that is close to the ground.)

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\* Views expressed in this paper are essentially of the author, and not of the Organisation to which he belongs.

## 1.0 Introduction

1.1 Architecture is the discipline of **not** designing houses and buildings, much less of designing monuments but of building the human habitat; better ways of living have to be created. Architecture has to contribute to the solution of massive growth of our human habitat. Thus, architecture has to be seen as a discipline meant to serve every one; to house every one. In other words to create the proper habitat for every citizen including those of the Southern Region. Much more, it has to be seen as service provided for the people of the region, and not as an art or a mental exercise in the abstract. Architecture, therefore, cannot be limited to the creation, much less to the design of buildings to be put together on a layout which has nothing to do with their conception and their creation. For this purpose, both conception and creation of building have to be reunited. To do this human habitat should be divided not into special aspects of the same physical unit, but into units of different sizes. Such a unit can no longer be the single building. It has to be a community within which the architect will have the full responsibility for conception and creation of the proper human habitat. It seems that such a unit should be one which is controlled by the human scale, and such is only the human community, within which man alone is the controlling factor. The architect has to contribute to the conception of the human habitat, and also that he has to limit himself to minor units of that habitat up to a certain size. This means that architecture has to find a physical solution to the problem of the human habitat. In this way architecture has to be defined as a part of creation in space for human settlement. In other words it is a science of human settlements. It coordinates economics, social sciences, political and administrative sciences, technology and aesthetics into a coherent whole and leads to the creation of a new type of human habitat. To work on such a habitat, the architect must enrich his knowledge so as to be able to cover the related fields and cooperate with the community developer, the urbanist, the planner, the economist, the geographer and the social scientist. Architect has to deal with a series of units in the following way:

- (i) with rooms; non-subdivided, built-up spaces designed and built up - the architect has to deal with or without the contribution of the interior decorator. These units do not grow, but are static in size.

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\*The Southern Region for purposes of study consists of the States of Kerala, Tamil Nadu & Mysore.

- (2) single house or buildings, which are created by the architect but can be conceived as growing, expandable and changing units;
- (3) the human community, which is designed and created by the architect and does not grow;
- (4) the cities, growing organisms created by the urbanists, but with only a minor degree of collaboration from the architect; and
- (5) the regions, which do not grow and within which architecture plays an even more minor role than in cities.

Architecture might be coordinated geographically, that is, with its environment at the local level. The house we build must be coordinated with other houses, buildings, squares, open spaces and traffic, but it must also be coordinated at a border level with other similar activities. Coordination has to be achieved hierarchically, not only at the local but at all levels, regional, district, city and local. In this way we can view our achievement within the larger framework of the region at large to which it belongs.

## 2.0 Socio-economic structure:

2.1 The Two major factors largely shape the socio-economic structure of a community. These two determinants are: industrial structure and income structure. A study of the existing and proposed industrial pattern of the towns in southern region (as defined for study purposes) reveals that in the case of Kerala State, at present, the largest number of urban dwellers are service class people in the class I and class II towns as well as in class III and class IV towns\*. Though in class I and II towns service class people would continue to pre-dominate in 1981, the picture with regard to class III and IV towns would differ.† In these towns larger percentage of their population will be engaged in manufacturing. The number of people engaged in manufacturing would increase by 80 percent as compared to an increase of 65% in service class population. Conversely, in the class I and II towns the service class population would double itself in 1981. In Tamil Nadu state conditions would be reverse than that of Kerala State. In Tamil Nadu in all classes of towns a comparatively larger percentage of population would be engaged in manufacturing sector in 1981. In the case of Mysore State again in class I

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\* Urban population projection.

Town & Country Planning Organisation, M/ Health, F.P., W. H. & U. L.

& II towns the manufacturing sector will predominate so far as employment is concerned. The number of urban population engaged in the manufacturing sector will double itself in 1981. Another significant feature of this State would be that a sizeable proportion of the urban population in class III and IV towns would continue to carry agriculture as their primary occupation, their percentage being second largest followed by service class people.

2.2 In the absence of adequate data pertaining to family income in the urban areas of the southern region per capita income has been taken of the different States as an indication of the economic condition of the population of the southern region. Among the States of Southern Region, the highest per-capita income is that of Mysore State followed by the States of Tamil Nadu and Kerala. In Mysore State in 1964-65, the per-capita income was Rs. 441/-. In the same year it was Rs. 436 in the State of Tamil Nadu and Rs. 391 in the case of Kerala State. These figures of per capita income of the three States of Southern Region indicate the existing poor economic condition of the vast majority of population, including the urban population of the region. If these figures are any judge, the majority of the urban population is neither in a position to afford their own housing nor to pay the economic rent for it.

### 3.0 Urbanisation Pattern:

3.1 Another important factor determining the architecture of a region is the size of the towns and the degree of urban growth which the region has attained. In this context it will be pertinent to study the pattern of urban growth of the southern region. The process of urbanisation is likely to gain unprecedented momentum in coming decades. It may be observed that in 2001, the number of class I and class II towns will increase and the number of class III and IV towns will decline. From 113 in 1961, the number of class I towns will become 302 and that of class II 321 as against 137 in 1961. Conversely, the number of class III town will decline to 112 in 2001 from a figure of 485 in 1961. Besides, in 2001 the relative share of urban population will be the largest in class I towns. Over 80% of the class I towns will experience a growth rate of 100% to 149%. As compared to this 66% and 62% of the class II and III towns respectively will also experience the same growth rate. During the period 1961-2001, class I towns will grow at the rate of 156%, class II towns 128% and class III town 123%.

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\*Indian Economic Association, December, 1969 paper: "Regional Economic Development".



3.2 Taken separately in each state of the southern region the class I cities will increase by  $2\frac{1}{2}$  times in 2001; in Mysore and Tamil Nadu by 3 times. The growth of class II towns will be more or less the same as that of class I towns. Class III towns will experience a reverse trend.

#### 4.0 Population Growth:

4.1 In the southern region, about 17% of the total population of the country lives. The total population of this region as per 1961 census was 74.17 million. Of this total 16.81 million population lives in the cities and towns of the southern region. Tamil Nadu has the largest proportion of urban population. Over 26.68% of its total population lives in urban areas. As compared to it, in the states of Kerala and Mysore 15.10% and 22.32% of the total population lives in urban areas respectively.

In the Kerala State there was no town which has over 5 lakhs population whereas the states of Mysore and Tamil Nadu have one each.

4.2 As per 1961 census, Kerala's urban population increased by 39.9% during the decade 1951-61 and was 25.5 lakhs in 1961 and the population of class I, II, III towns was 19.9 lakhs. The density of population in urban areas in the state was 5919 persons per sq. mile. In the case of Mysore State the urban population increased by 13.2% in 1961 over its urban population in 1951. The total urban population in 1961 was 52.6 lakhs and the population of class I, II & III towns was 36.7 lakhs. The density of urban population was 4447 persons per sq. mile.

4.3 In the Tamil Nadu State during the decade 1951-61 the urban population increased by 22.6% and was, as per 1961 census, 89.9 lakhs whereas the population of class I, II & III towns was 70.0 lakhs. The urban density was 4459 persons per sq. mile as per 1961 census.

4.4 The further trend of population increase reveals that by the end of this century about 31 million population will live in the urban areas\* of these states of the southern region. Further projections of population reveals that\*in 2001, the urban population \*\* of Kerala state would increase to 49.0 lakhs, thus registering a rate of growth of 145%. Mysore State will experience the highest rate of growth of 152% population during the decade 1961-2001. The urban population \*\*

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\*Urban population projections: Town & Country Planning Organisation.

\*\*Class I, II, & III towns only.

of Mysore will increase to 92.7 lakhs in 2001. In Tamil Nadu, the urban population will increase at a rate of 142% and will swell to a size of 164.0 lakhs.

4.5 Another significant fact will be that while the total number of towns (class I, II, III) would decline in 2001, the population in these towns would register a remarkable increase. This will be because the number of class III towns will decrease thus indicating that class I and II towns will have to bear a larger burden of future population growth:

4.6 Over the past decades our major cities have experienced unprecedented growth. During 1931-61 the population growth in the major cities of India has been: Greater Bombay 218%; Greater Calcutta 165%; Greater Delhi 424%; Greater Madras 167%; Greater Bangalore 238%. During the decades 1931-61, the rate of growth of population in the metropolitan cities of India has been around 150% except Delhi where it has been 425%. It is expected that about 25% to 30% of the total population of India will live in urban areas. This fast rate of urban growth has resulted in innumerable 'urban ills'. As a result, our cities are in crisis to day. The cumulative and acute deficiencies in our urban situation of today stand in sharp focus. There is a lot of exodus from rural areas, urban sprawl, squatters increasing in leaps and bounds, slum growing in spite of all checks, sub standard housing, inadequate infrastructure facilities of water supply, sewerage sanitation etc. The growth of our metropolitan cities has been all haphazard, and today the phenomena of 'premate city' predominates.

5.2 Deficiencies in the present strategy of physical Development

5.1 The present strategy of physical development suffers from the following drawbacks:

(1) Lack of rational density pattern for the whole city and unutilization of city spaces coupled with the development leap frogging the green belt; densely built periphery with a comparatively hollow centre.

(2) Planning techniques based on western methodology with regard to the delineation of the region and the formulation of development or master plans, essentially static in nature for cities and their regions.

(3) Absence of a coordinate policy and clear cut development objectives over a longer period than the 5 year plan.

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5.2 The density, land use and industrial patterns/discussed below:-

(i) Density: The densities in the towns and cities are closely related to their size. The average gross densities in our metropolitan cities with a population of over 2,000,000 is two and a half times the gross density followed in cities with a population range of 200,000 to 1,000,000 population and about 12 times the average gross density in small towns having a population of less than 20,000.

(ii) Land Use Pattern: An excessive degree of mixed land uses pattern is a common feature of our cities and towns. Residential use, accounting for a little less than 50% of the total developed land, is the single largest use of developed land in almost all the cities and towns in India. This is followed by roads and streets. The relative proportion of other land uses is comparatively much less than these two. Due to greater concentration of industrial, commercial and cultural activities, the proportion of land under non-residential uses is relatively high in large urban areas and

(iii) Industries: Industrial activity pockmark almost all parts of our metropolitan cities with no or little control over their location. The bulk of industries in these areas are being operated on small scale, both in terms of 'space' and 'capital'. Most of the industries operate in obsolete structures, often encroaching upon adjoining streets, resulting in an unhealthy environment and inefficient factory layout.

## 6.0 Housing Situation in Metropolitan cities and Urban Areas.

6.1 The mass exodus of rural population to urban areas has created acute housing problem in almost all of our metropolitan cities and towns. The ever increasing housing backlog has given rise to sprawling slums and 'shanty townships' on vacant land. In a metropolitan city more than 60 percent of the urban population suffers from deficient housing and a sizeable number of population have no housing at all. Rapidly growing number of lower middle class population comprising of service class people, petty shopkeepers etc. are by far the worst victims of the housing problem. It is estimated that in metropolitan city like Delhi about 80 per cent of the total urban population can neither afford to pay the economic rent nor to afford their own housing. The gravity of the problem can be assessed from the fact that over twenty five percent of Calcutta's population lives in squalid 'bustees' and another 22% in slums whereas as many as 78% of the huts are shared by four or more families. Most of the huts are tiny, dark, dingy and lack all basic

amenities of life. Shanty towns pockmark practically every part of our cities. Roughly, 30% of Delhi's population lives in slums and shanty towns. Besides, over 70% of the households live in one room tenements without any of the basic amenities. In Delhi 69% of the total houses have been classified as sub-standard. Further about one fifth of the total families in Indian cities do not have a living space of more than 100 sq. ft. whereas more than half of the families have a living space of 200 sq. ft. or less. A very small percentage, (5% or so) have a living space of more than 500 sq. ft. in our major cities. In the case of minor cities and towns larger living spaces are available to a section of population as compared to major cities. In sum, if adequate housing is to be provided for all the inhabitants, at least 30% of the nation's investment is required.

6.2 There are serious bottlenecks and deficiencies in transportation, power, water, waste disposal and numerous other aspects of the infra-structure required to optimise economic growth. Large part of potentially productive capital is tied up in urban land speculation. Institutionally the metropolitan cities usually house the central administrative functions of the region and offers specialised services of higher education and better medical aid. It is a major communication centre. But the services, as these exist are grossly inadequate. There is a constant problem of supplying adequate potable water to the urban population. Only very few areas are served with sewers. Circulation system is heavily strained although the number of automobiles is not large.

6.3 Urbanisation is the result of industrialization. This phenomenon is reflected in the fact that world's most industrialised and economically developed nations today are the most urbanised ones and vice versa. But in India the conditions are not so. Urbanisation in this country is still in its infancy and has yet to gain momentum. Hardly 18% of its population today live in cities. Urbanization has to gain momentum in this country for a quick and rapid economic growth, for the metropolitan cities provide the growth poles of Economic growth in industries and commerce. The imbalance in urban life and urban ills arising out of unprece-dented growth call for a suitable strategy of urbanization. There is a need to establish a proper relationship between urban growth and economic development of the country. With this objective in view, it will be essential that:

- (a) economic and social development plan should include a strategy of urbanization; and
- (b) urban plans should be process-oriented firmly based on the process of economic and social development.

The 'strategy of urbanisation' would include a positive and realistic plan and the proposed method of implementation. The blue print of the plan implies a synthesis based on social and economic objective of regional development, distribution of urban settlements, location, size, function and growth rate of settlements in the regional and national framework. The plan would also indicate the relationship with other settlements, metropolitan, linkages and accessibility devised with the aim of fostering economic and social development of the area. Such urbanisation strategy must develop a coherent set of national and state policies for solving the present social, economic and physical problems of the urban areas and would lay down a policy guidelines for rational allocation of national and state resources for purposes of urban and regional development.

6.4 The plan must envisage the programme for diverse public actions including investments intended to guide and control the urbanisation process. Planning for the distribution of urban settlements must closely tie up the desired distribution of jobs in a region and improve the economic balance by conceiving rational growth policies.

#### 7.0 Essential Elements of Plan Implementation Strategy:

7.1 Spatial planning must be made an integral part of National Economic Planning, if the development process has to be effective. It must ensure optimum use of land and optimum functioning of human activity. Only recently, spatial planning has been recognised as a positive tool of development supplementary to other instruments of public policy and specially with reference to the significant contribution that it can make towards the growth of a country's national, regional and local economy. Faster the pace of economic development, more intensive the shift in the existing modes and patterns of production and distribution; more rapid the changes in the demographic structure and greater the need for physical planning. The Organisation of planning process is indicated in FIG 2.

7.2 Operating in conjunction with national economic development, spatial planning will help in economising the resources including the land resources - by providing in advance a precise framework for rational distribution of population and economic activities. It would seek to (i) ensure optimum utilization of land and optimum organisation of various land uses; (ii) minimise the need for movement of goods and people by placing various uses in proper functional relationship and also eliminate the traffic bottlenecks; (iii) locate commercial activities in good relation to terminal facilities, ports,

warehouses etc; (iv) set aside adequate acreage for industrial uses in area plans and also within industrial areas to achieve economies of industrial location and agglomerations; (v) earmark areas for residential purposes in such quantities and at such density and planning standards so as to make the optimum use of the scarce capital resources & (vi) help establishing a proper rural-urban relationship, focussing attention on rural development; thereby checking the rural exodus.

## 8.0 Action oriented Approach For the Development of Metropolitan Region:

### 8.1 Action Planning:

Urban Plans and Metropolitan Plans must identify the action areas or the hinterland for development plans have to be prepared for the next 10-20 years. To start with an area of 200-400 miles on all sides from the main metropolis serving a population of 15-50 millions may be worked out for comprehensive planning purposes in accordance with the principle of Central Place Theory. Such an identification would be required in order to assist programming allocation of priorities so as to provide guidelines for its development.

8.2 The changing development situation of the metropolitan cities has to be viewed as an integrated and dominant aspect of the pattern of development of the region as a whole, for metropolis provides vital economic functions and social services for its hinter land. Effective relief from the current problems of the metropolitan cities can only be had if the entire region surrounding them is simultaneously developed. Measures for the development of the metropolitan cities alone will not suffice. Thus, there is a need that the development plan for a metropolis must be understood in context of the continuing process of planning on the one hand and the gradual completion of a regional framework for urban development on the other. The preparation of a spatial plan could be undertaken with the following objectives:

- (1) to promote a more dynamic growth of the metropolitan economy with increased production, income and employment opportunities;

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is based on Central Place Theory. K1 - Movement Area No. 1 (IM - 3M) K2 - Movement area 2 from hat to Tehsil (3M - 4.5M) K3 - Movement area 3 from Tehsil to District (10M - 15M) K4 - Movement area from District to Metropolitan core (30M - 45M) K5 - Movement area under influence of District immediately beyond it (90 - 150M).

- (2) to integrate spatial and environmental planning with economic development of the region;
- (3) to develop an urban environment which is socially satisfactory and is capable of providing appropriate facilities and services for a population of about 5.20 millions;
- (4) to create the machinery for sustained development planning and for effective plan implementation within a coherent growth frame-work for the metropolitan core region; and
- (5) to strengthen local self govt. and citizen participation in the development of the metropolitan region.

The approach to spatial planning should be based on long term national economic plans, short term national economic plans, on findings of the studies demographic and social conditions in a given area and in physical environment of the given area. The scope of such a plan should be very broad; laying emphasis on the basic concepts and essential policies in order to stimulate and guide more detailed planning and development of implementation programmes. Development policies must be integrated with regard to a wide range of social activities, to a broad geographic base and to a long dimension in time.

8.3 Planning strategy for the development of urban areas must recognise the rapidly growing size of our towns and cities and the consequent economic, social, and physical problems of awesome dimensions. Planning and development efforts should therefore be diverted to (i) initiating immediate action programming (ii) long range programming and (iii) development of planning and implementing agencies.

8.4 Immediate Action Programming: 5 yearly action programme to be adopted for the metropolitan region and its core areas. Such a plan would deal with the most urgent problems of the metropolitan areas pertaining to urban development, requiring immediate attention of the authorities. Under this plan the following planning tasks have to be undertaken:

- (a) arresting the deterioration of the physical base of the cities by providing basic utilities and essential services in a coordinated manner and according to a Phased programme;
- (b) making better use of the existing capacities, both in industries and social infra-structure by detecting weak links that are responsible for the under utilization of already installed net work capacity. Strengthening of these weak links to be undertaken on priority basis;

- (c) making provision for the massive new growth by undertaking programmes of non-permanent low-cost housing (to be converted into permanent housing as and when resources permit) on planned basis, with all basic amenities, involving minimum initial capital outlays;

#### 8.5 Long Range Programming:

Long range spatial plan would establish on a continuing basis the direction according to which the growth of the metropolitan areas would take place over a period of 15 to 20 years. It would stress the formulation and implementation of essential economic, social and administrative policies. The 'Policy Plan' as it will be called, will be based on a realistic appreciation of the role of urban and metropolitan areas in economic growth. Such a planned development of the urban areas should lead to the emergence of settlements and community life that are suited to our socio-economic conditions and strengthen the process of economic development.

#### 9. Sequences of Stages in Spatial Planning Organisation - Southern Region:

The identification of the hinter land or action areas for the different metropolitan areas, based on the K-7 principle and derived from the theory of communication and central place concept is done at various levels starting from the macro level (Regional perspective level) to the meso level (Regional Perspective - Southern Region) FIG. 3 to Regional perspective metropolitan area level to the micro level (cluster level). These action areas for purpose of spatial planning are to be taken as a workable unit of the planning process for the next 10 years for detail physical planning.

#### At National Level:

- K-7 - Regional Perspective on national level.
- K-6 - Regional Perspective - Southern Region.
- K-5 - Regional Perspective various metropolitan areas.
- K-4 - Regional Perspective - Potential Metropolitan Regions, comprising of clusters of towns.
- K-3 - Regional Perspective individual state plans forming part of the clusters.
- K-2 - Regional Perspective - District Planning Area.
- K-1 - Local Plans.

The various towns likely to bear the future load of urbanization have to be selected on the basis of the potentiality of the various infra-structures they already possess and have to be grouped into clusters. In each cluster (potential metropolitan region) those cities are to be grouped that are much alike as



far as their characteristics and interaction with other towns are concerned. The hinter land which each cluster possesses has been termed as Potential Metropolitan Region. A cluster centre may be taken in a multi-dimensional space as the factor of mean values of all the variables of the cities which form the cluster.

9.2 Each potential metropolitan region in the Southern Region(cluster) has been proposed on the basis of the existing transport pattern comprising of road, rail, and air links so as to achieve efficient inter linking of the existing regional land uses. These are tentative proposals otherwise earmarked on the basis of the existing road and railway transportation and in doing so new proposal extending the railway system or creating new lines are made. Four important aspects of road transportation have been considered viz. (a) size of the road (b) type of roads - like national, state highways or major roads (c) short term and long term proposals, if any, and (d) areas with existing densities in the neighbourhood of 600 p.p. sq.mile or more. Most of the existing roads link the regional and metropolitan centres and their economic activity. Most of the metropolitan centres are already metalled and macadamised with sufficient right of ways whereas the present traffic load per lane is much lesser than laid down by any standard. A beginning, therefore, must be made with the towns located on main corridors having railway and road facilities in order to effect saving in expenditure. The grouping of towns in each potential metropolitan regions (clusters) could be done on the basis of spatial integration of activities after studying the following aspects of settlement.

- a) function and orders of settlements.
- b) the economy and type settlement.
- c) existing system of settlements while selecting the present potential major centres of urbanization. Due care has been taken that they must be situated on one of the highways linking the important regional centres roads and railway transportation radiates to different directions from these centres. These routes are important as they carry both goods and passengers.

At the regional level the various tiers of the K-7 theory are as follow:

- K-7 - Regional Perspective - Southern Region.
- K-6 - Regional Perspective - Metropolitan Areas.
- K-5 - Perspective Metropolitan Planning Region(Cluster of town/town groups).
- K-4 - Regional Perspective - State or District in various perspective Metropolitan Regions.
- K-3 - Regional perspective - District Planning Area.
- K-2 - Regional Perspective Planning Area of individual towns.
- K-1 - Local Planning Areas.

The proposed potential metropolitan regions in Southern Zone are indicated below.

Proposed Potential Metropolitan Regions in Southern Zone

Name of the Region/cluster.	Group of towns/name of district(s)	Total Pop. of the district(s) / from group	Total area of the district(s) (in sq. mile)	Urban Pop. of the district(s)	Urban area of the district(s) (in sq. mile)	Pop. of I, II & IV class towns of the district (in lakhs) (1961)	Projected Pop. of I, II & IV class towns of the district (in lakhs) (2001)
1	2	3	4	5	6	7	8
1. Cannanore Kozhikode	Cannanore Kozhikode	4,397,483	4761.5	732624	135.8	5.4	14.1
2. Coonor Alleppey	Alleppey Coonor T. G. Palghat Trichur Ernakulam Kottayam	8873,465	7586.1	1281,704	229.3	10.0	25.0
3. Quilon Trivandrum	Quilon Trivandrum	3685,759	2671.3	592,805	82.7	5.8	16.4
4. Tirunelveli Nagarcoil	Tirunelveli Nagarcoil (Kanya Dt.)	3727194	5053.0	9979,61	305.3	7.55	18.5
5. Madurai Ra-manathapuram	Madurai Ramanathapuram	5633015	9687.5	1615226	291.9	12.38	34.5
6. Pondichery Cuddalore Thanjavur	Pondichery (U. Teh.) Cuddalore (South Arcot) Trichirapalli Thanjavur	9853057	13625.3	1520910	413.8	11.23	15.9
7. Salem	Salem	3804,108	7051.2	617343	113.0	4.48	11.0
8. Madras Vellore	Madras Vellore (North Arcot) Chingleput	7941329	7284.2	881001	211.1	14.1	20.0

1.	2.	3.	4.	5.	6.	7.	8.
9. Belgaum	Belgaum						
Dharwar	Dharwar	3934173	10430.9	832033	254.7	5.6	14.5
10. Karwar	Karwar						
	(J. Kanera)	689,549	3976.5	120864	37.4	0.4	1.5
11. Mangalore	Mangalore						
	(S. Kanera)	1563837	3150.0	280359	52.2	2.4	6.0
12. Bangalore	Bangalore						
Chikmaglur	Kolar						
	Mandya						
	Mysore						
	Hassan						
	Chikmaglur	7858367	18214.9	2362765	380.1	18.4	52.5
13. Shimoga	Shimoga	1017368	4058.4	260368	69.0	1.4	5.5
14. Chitradurga	Chitra-	1094284	4170.9	190159	20.3	0.6	4.0
15. Bellary	Bellary	115261	3820.8	206537	58.9	1.3	3.0
16. Raichur	Raichur	1100835	5435.5	160622	91.4	0.6	2.0

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9.2 The pattern of urbanization and the type of urban society which the southern Region will have in the coming decades would largely determine the architecture of the southern region in relation to the socio-economic needs. The future pattern of urbanisation indicates that the population of class I, II and III towns in the southern region will be about 31.0 millions and there would be a larger concentration of population in these towns. The population of these towns would be predominantly industrial in character followed by service class people. If the existing economic condition of the urban dwellers in this region is any judge, it is obvious that a vast majority of them would hardly be in a position to afford their own housing. Since architecture is the creation of settlement on habitat, housing plays an important role in determining the architecture. Architecture would thus largely be determined by : (a) the number of houses to be provided; (b) the extent of funds available; and (c) economic condition of the people who have to be provided housing.

9.3 The deficit in housing is enormous while the resources to meet the housing needs are meagre. Thus, any strategy which is developed to solve the housing problem should, above all, be cognizant of the limited resources at our disposal. To provide housing to all the citizens with the limited resources, as they are, would be an almost impossible task in the near future. Thus, there is a need to evolve such a housing scheme which at least provide a shelter to all the citizens of the southern within the available resources. The type of housing will largely determine the architecture of the southern region.

From the maze of experience and research now available on this subject the foremost issue in Indian context is the role of High rise units as a possible solution to the problem of housing. Experience has shown that the cost of the dwelling unit increases 50% the higher it goes from the ground (50% including maintenance). In addition maintenance costs also proportionately increase. On very expensive land, this additional expenditure may sometimes be inevitable and often justifiable but for a long while High Rise in India will continue to be associated with the more affluent section of the community. It is, therefore, unlikely that High Rise will offer any significant solution to the overall problem in the foreseeable future.

9.4 In view of the limited resources available for housing and the urgent need to provide housing on massive scale, a programme of low cost non-permanent housing may be initiated. For providing massive residential settlement, effort must be focussed on providing at least a temporarily adequate infrastructure of roads, water supply, drainage, sewerage and

essential community services and facilities so that the vast majority of the city dwellers can at least have a sound base upon which to build whatever kind of housing they can afford. Although much of this housing or shelter would be of non-permanent type, if it built on a sound infra-structure it will be possible to improve residential environment, systematically and economically. In case it does not rest upon a sound base but is allowed to grow haphazardly it may be prohibitively expensive to improve it later and the dismal conditions of the existing dwellings, built up and bustees areas, will be perpetuated. Such housing would have to be of the cheapest material available and the housing units resulting from them would have to be well organised right from the stages of planning to management.

9.5 Any basic criteria for low cost urban housing should recognise (a) self help (b) rapid assembly and (c) the use of indigenous material. We are now left with a scope of attempting massive new growth housing with little or no vehicle circulation involved, on scarce urban land and at high densities reasonably near the place of employment. As the basic objective is to give majority of urban dwellers a roof of his own, these structures would have to be the cheapest possible as the costs would have to be met almost entirely through their own resources. It appears logical to state that the higher, one goes from the ground, the greater the density is achieved. It must however be appreciated that densities greater than the highest proposed in the Plan are possible with just ground and one upper structure.

9.6 In massive housing it is necessary to inculcate the use of a home for certain functions and the enclosures and spaces created around it for circulation and community welfare. Assurance to each family owning the little space on which a shelter is to take shape, will ensure better and more hygienic community living. The unit of no less than 166 sq.ft. plinth area per family is considered the minimum for urban living in Delhi. For gross densities of 60-250 per acre terrace housing or row housing would be an ideal one. Even the density as high as 100-250 p.p.a. can be very easily obtained with even single storey terrace housing development without sacrificing good planning standards.

Table No.1: distribution of Towns According to their size (I II & III) in the decades 1961 - 2001.

Year	Class I		Class II		Class III	
	No. of towns		No. of towns		No. of towns	
I	2	3	4			
1961	113	137	485			
1971	147	184	404			
1981	185	234	316			
1991	235	289	211			
2001	302	321	112			

Table No. 2: Frequency distribution of class I, II, & III towns according to growth rates for the period 1961-2001.

Ranges of percentage growth between 1961/2001		Class I	Class II	Class III
1		2	3	4
Less than	49	5	7	36
50	99	7	23	87
100	149	34	43	158
150	199	55	31	76
200	249	5	8	15
More than	250	1	1	-
Total		107	118	372
Mean		148.8%	129.9%	117.4%
Median		156.8%	130.2%	119.9%
Mode		156.4%	128.7%	123.3%

Table No. 3: Number of Towns (Class I, II & III) Over the period 1961, 1981, and 2001 in different states with its Projected Urban Population.

State	Class I						Class II						Class III	
	1961		1981		2001		1961		1981		2001		1961	
	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in Lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Kerala	4	10.0	6	19.4	10	35.0	4	2.9	7	5.2	15	10.5	25	7.0
Mysore	6	21.7	14	46.7	19	77.6	9	6.6	10	6.5	16	10.8	30	8.4
Tamil Nadu	11	37.1	20	74.0	33	129.1	22	14.5	35	24.3	49	36.0	60	18.4
Total	21	68.8	40	140.1	62	241.7	35	24.0	52	36.0	80	57.3	115	33.8

Contd.....21/-



Table No.3 Contd...

- 21 -

Class III				All Class Towns						(% increase of population during State 1961-2001)	State
1981		2001		1961		1981		2001			
No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)	No. of towns	Pop. (in lakhs)		
16	17	18	19	20	21	22	23	24	25	26	
20	7.4	8	3.2	33	19.9	33	32.0	33	48.7	145%	Kerala
21	7.6	10	4.3	45	36.7	45	60.8	45	92.7	152%	Mysore
38	14.9	11	4.3	93	70.0	93	113.2	93	169.4	142%	Tamil Nadu
79	29.9	29	11.8	171	126.6	171	<b>206.0</b>	171	<b>310.8</b>	145%	

Table No.4:-Projected Urban Population (size classes I, II, III and IV) of Kerala by functional type.

(Figures in '000)

Sl. No.	Functional Type	Class I and II			Class III - IV		
		1961	1971	1981	1961	1971	1981
1	2	3	4	5	6	7	8
1.	Service	1,067	1,489	1,992	621	812	1,020
2.	Trade & Transport	-	-	-	20	26	38
3.	Manufacturing	230	336	467	575	788	1,035
4.	Agriculture	-	-	-	42	54	67

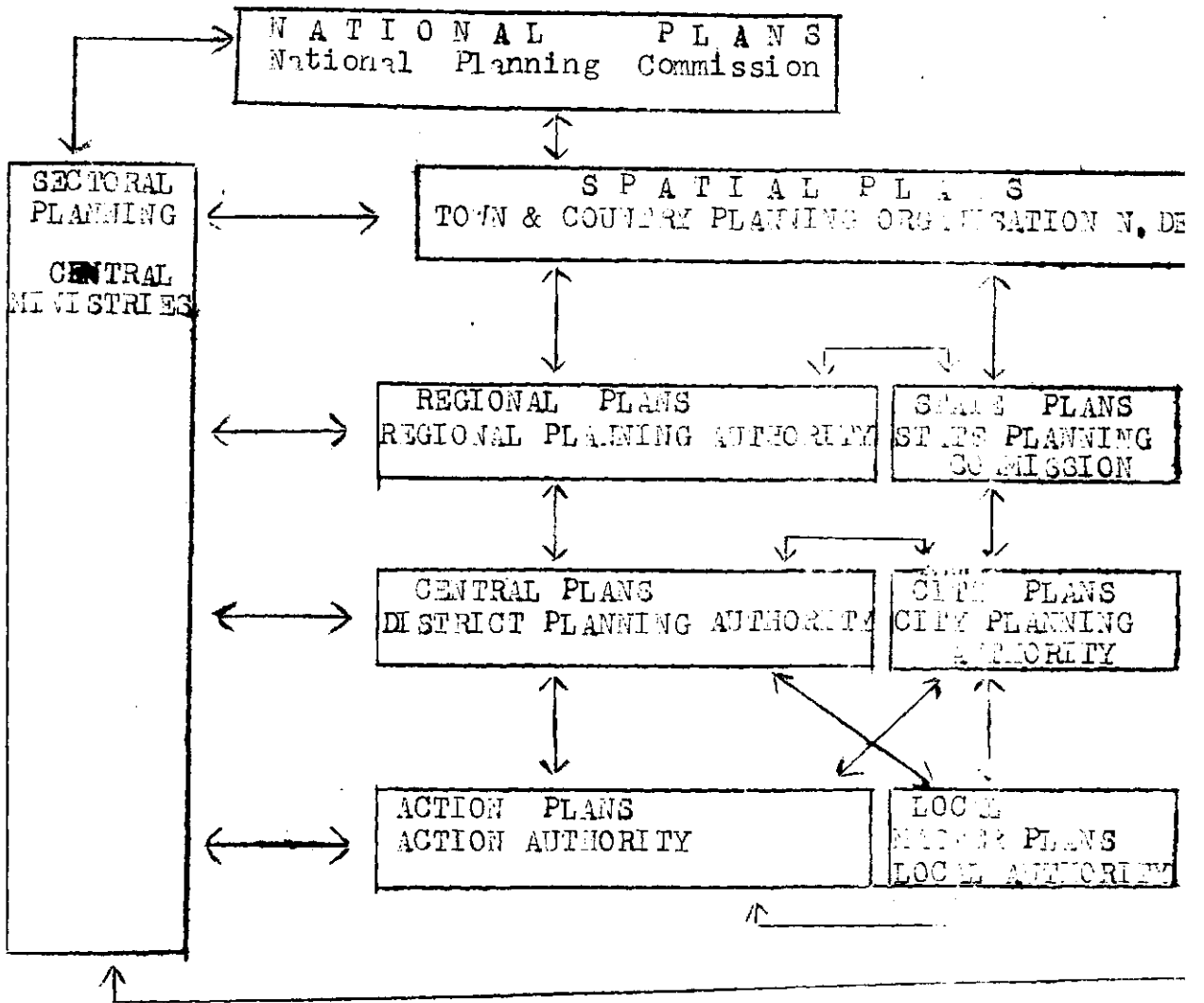
Table No.5:-Projected Urban Population (size Class I, II, III and IV) of Mysore by functional type.

Sl. No.	Functional Type	Class I and II			Class III and IV		
		1961	1971	1981	1961	1971	1981
1.	Service	692	961	1297	611	841	1131
2.	Trade & Transport	-	-	-	26	36	48
3.	Manufacturing	2090	3067	4311	865	1178	1550
4.	Agriculture	53	75	103	928	1217	1548

Table No. 6:- Projected Urban Population (size classes I, II, III and IV) of Tamil Nadu by functional type.

(Figures in '000)

Sl. No.	Functional Type	Class I and II			Class III - IV		
		1961	1971	1981	1961	1971	1981
	1	2	3	4	5	6	7
1.	Service	2,235	3,011	3,908	1,293	1,577	1,877
2.	Trade & Transport	190	236	288	191	244	311
3.	Manufacturing	2,743	3,667	4,721	1,559	1,990	2,421
4.	Agriculture	-	-	-	749	865	980



THE ORGANISATION OF  
PLANNING PROCESS

EXTENT OF HOUSING AND BUILDING ACTIVITY  
IN PRIVATE SECTOR IN URBAN AREAS IN  
SOUTHERN REGION

BY

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This paper attempts to estimate the number of housing units constructed in the private sector by utilising the data made available to the National Buildings Organisation by the Local Bodies, on number of building permits authorised and buildings completed. The paper estimates that about 69,000 urban housing units are built every year by the private sector in the Southern Region.

Introduction:

Housing means the provision of a comfortable, cheerful and healthy shelter for human beings. This is one of the basic needs for human existence after food and clothing. The country has witnessed in past few years the green revolution which has improved the food situation. The attention of people will now turn to basic necessity i.e. shelter. In our country it is an undeniable fact that housing conditions have deteriorated greatly during past two decades. The urban housing shortage amounted to 28 lakh units in 1951, 50 lakhs in 1956, 93 lakhs in 1961 and was estimated at 119 lakhs at the beginning of the Fourth Plan. This shortage is increasing every year at the rate of 3.5 lakh units - 2.5 lakh units to cover new family formation and 1 lakh units for replacing dilapidated houses. (1) Against this our rate of new house construction has been extremely low. The social housing schemes of the Deptt. of Works, Housing & Urban Development provided roughly 4 lakh housing units during the last three Plans. Other Ministries, State Governments, Public Undertakings and local bodies provided another 4 lakh units during the same period. (2) Considering the magnitude of the problem it is clear that the governmental efforts alone cannot solve the problem. The private Sector has to be induced to enter into this field. In this context, it would be relevant to examine the housing and building activity in the private sector which, hitherto, it is felt, has been mainly confined to metropolitan towns and growing new townships.

In the Southern Region, the situation may not be much

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(1) Report of the Working Group on Housing for the Fourth Five Year Plan (1969-74).

(2) Ibid.

different from that of country as a whole as described above. According to 1961 Census, there were 39.28 lakh houses against 40.00 lakh households. (3) Keeping in view the social objectives laid in the five year plans that each household should have a separate house, the housing shortage can be placed at 2.72 lakh units in this region. But this figure does not reflect the true picture as in the 1961 census the dilapidated and sub-standard houses have also been taken into account. The 16th round of NSS has revealed that as much as 22% of the houses in urban areas were 'bad, dilapidated or improvised'. All these would need replacement. The housing shortage, therefore, would be much more than 2.72 lakhs as said earlier.

### Type of data collected from the local bodies and its limitations

Presently reliable statistics about the housing and building activity in urban areas is not available. To fill in this gap the National Buildings Organisation (NBO) is trying to establish a country-wide statistical machinery for the collection of such statistics. But it will take some time to streamline the procedure for the regular flow of data. In the absence of any data, efforts were made by the NBO to collect data from the corporations/municipalities about the number of building permits issued and number of buildings completed as it was thought that it will portray a rough workable idea about the extent of building activity in urban areas.

Building permits are issued primarily to ensure that buildings comply with appropriate regulations and land use pattern/in some cases to restrict the amount of construction started. The main provisions of building bye-laws relate to structural safety, fire safety, health, sanitation and other requirements and also requirements for specific use (for example, cinemas, theatres, industrial buildings, single or double room tenements, etc.)

The usefulness of obtaining data from this source, however depends on various factors, such as:-

- i) the nature of data supplied in applications for building permits;
- ii) the extent to which permits are required for different building projects;
- iii) the extent to which local authorities are informed of the progress made on the different projects in these areas; and
- iv) concepts and definitions used.

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(3) Housing stock and situation - their nature and characteristics in Southern Region of India - with special reference to Kerala by Shri P.P. Philipose.

These factors many a time may lead to incomplete coverage and inject differences in findings making it difficult to compare and check the consistency of data; however, the usefulness of these data cannot be underestimated. In spite of various limitations they have an importance in judging the tempo of economic activity in general and building activity in particular in the community.

verage: For making a beginning, towns with population of 75,000 or above were covered. In all 159 such towns were included in the study embracing about 50% of the total urban population. In the Southern Region 52 towns were included covering 42% of urban population in this region (See Annex I). Through the Local Self Govt. Departments of the States, Local Bodies were requested to furnish the data regarding building permits issued and number of buildings completed for the year 1961 and onwards. The study presented in the following paragraphs is based on the data received from them for the year 1961-68.

#### Building activity in Southern Region and its constituent States

The number of building permits issued annually in the Southern Region comprising the States of Andhra Pradesh, Kerala, Mysore and Tamil Nadu during the period 1961-68 varied within the range of 26,000 to 32,000 giving an average of 28,750 building permits per year. Data on buildings completed, furnished by the local bodies pertained to buildings completed in a calendar year irrespective of the fact the permission was taken in the same year or earlier. Due to this it is not possible to co-relate the time lag between permits issued and completions achieved. Still it can be said that the proportion of number of buildings completed to building permits issued during a calendar year came to 63% or say roughly 18,000 buildings were added every year. A comparative study of building activity of different regions in the country showed that

in the Southern Region this activity has been at the highest level (Table 1).

Table-1: Average number of building permits issued and buildings completed per annum during 1961-68-Regionwise.

Sl. No.	Regions	Average no. of building permits issued per annum.	Percentage	Average no. of buildings completed per annum	Percentage
(1)	(2)	(3)	(4)	(5)	(6)
1.	Northern Zone	19914	19.0	1140	18.6
2.	Southern Zone	28752	27.5	18027	30.2
3.	Eastern Zone	14236	13.6	8863	14.8
4.	Western Zone	22460	21.4	8630	14.5
5.	Central Zone	19343	18.5	13150	21.9
All-India		104705	100.00	59810	100.00

Within Southern Region it is found that Tamil Nadu accounted for 33.6% of the permits issued while the contribution of other three States was almost equal.

Table-2: Average number of building permits issued and buildings completed per annum during 1961-68 in different States of Southern Region

Sl. No.	States	Average no. of building permits issued per annum	Percentage	Average no. of buildings completed per annum	Percentage
(1)	(2)	(3)	(4)	(5)	(6)
1.	Andhra Pradesh	6805	23.7	4756	26.4
2.	Kerala	6000	20.9	4121	22.9
3.	Mysore	6262	21.8	3427	19.0
4.	Tamil Nadu	9685	33.6	5723	31.7
Southern Zone		28752	100.00	18027	100.00

The quantitative analysis given in the foregoing paragraphs does not provide the real picture of building activity as it has to be judged in conjunction with the



population. Table-3 given below shows the rates of building permits issued/building completed per 1,000 population. It would be seen that the rate for Southern Region is higher than all-India average but it is not the highest amongst the Regions.

Table-3: Average rates of building permits issued and buildings completed per 1000 population per annum during 1961-68 - Regionwise.

Sl. No.	Region	Rate of building permits issued per 1,000 population per annum	Rate of buildings completed per 1000 population per annum.
(1)	(2)	(3)	(4)
1.	Northern Zone	3.8	2.1
2.	Southern Zone	3.0	1.8
3.	Central Zone	2.8	1.9
4.	Eastern Zone	2.0	1.3
5.	Western Zone	2.4	0.9
All-India		2.7	1.5

Within the Southern Region, Kerala showed the highest rate of building activity which was roughly  $2\frac{1}{2}$  times of the rate observed in the other three States.

Table-4: Average rate of building permits issued and buildings completed per annum in different States of Southern Region

Sl. No.	States	Average rate of building permits issued per 1000 population per annum	Average rate of buildings completed per 1000 population per annum
(1)	(2)	(3)	(4)
1.	Andhra Pradesh	2.5	1.7
2.	Kerala	6.4	4.6
3.	Mysore	2.7	1.6
4.	Tamil Nadu	2.4	1.6
Southern Zone		3.0	1.8

Estimate of housing units constructed per annum

The building activity presented above included both residential and non-residential constructions. It was not possible to separate the two from the available data. However, some of the local bodies furnished data separately for residential and non-residential construction. Based on this limited data it has been estimated that 2/3rd of the constructions were residential constructions. For arriving out the rate of residential construction, the rate of buildings completed for each State has been deflated by 2/3rd. The rate thus obtained when multiplied by the urban population will roughly indicate the residential activity in each State (Table -5)

The above data, however, related to buildings where in many cases one building had 2 housing units or more. No data are available to estimate the number of housing units per building. A comparative study of 1961 Census data and building permits showed that the number of housing units per building may be taken as two. With this assumption the number of housing units added per annum in the private sector for each State has been estimated in the Table-5.

Table-5: Estimated number of housing units constructed per annum by the private sector in urban areas in the Southern Region

States	Average rate of building completed per annum	Average rate of residential buildings completed per annum (taken as 2/3rd of the rate of buildings completed)	Estimated no. of residential bldgs. completed per annum.	Estimated of housing units constructed per annum
(2)	(3)	(4)	(5)	(6)
1. Andhra Pradesh	1.7	1.1	7700	15,400
2. Kerala	4.6	3.1	9300	18,600
3. Mysore	1.6	1.1	6600	13,200
4. Tamil Nadu	1.6	1.1	11,000	22,000
Southern Region	1.8	1.2	34,600	69,200

The above table shows that about 69,000 housing units were provided by the private sector in the Southern Region. This level of activity is not even sufficient to meet the requirements of natural growth of urban population which is estimated to be increasing by 4 lakhs every year in the Southern Region. This leads us to the conclusion that if further deterioration of housing condition in urban areas in Southern Region is to be checked, the tempo of building activity is to be accelerated which may be possible only by creating more favourable condition for attracting private investment in this sector.

5

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A N N E X - I

..Statewise distribution of the coverage of data:

<u>Sl. No.</u>	<u>State</u>	<u>Number of municipalities covered</u>
1.	Andhra Pradesh	16
2.	Kerala	7
3.	Mysore	13
4.	Tamil Nadu	16.
	<u>Southern Region</u>	<u>52</u>

# Public sector current housing and building activity in Southern Region of India - its type and Centres of Concentration.

by  
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## Summary

Present and future economic activity in a region or part of country is intimately linked with current its housing and building construction activity. The un-planned housing and building activity very often in long run develops local constraints and leads to areas of stresses and strains in the region. The data on current housing and building construction activity which is of recent innovation in realm of Indian Statistical System, can be of some help in identifying such locals. The present paper is an initial attempt in this direction based on data of Central Public Works Department for Southern Region of India.

## 1. Introduction

1.1 Housing and building construction activity is a fore-runner for any human activity to provide necessary tools for performance of the latter. The big metropolis as we see today are accumulated result of continued incremental doses of varied type of housing and building construction undertaken in their time to time in past. Present is result of past construction activity and future in them or elsewhere would similarly be guided by current housing and building activity. It is in this context that current activity assumes importance.

1.2 The construction activity in building sector creates ripple in labour force firstly due to its own activity by attracting construction labour at Centre(s) of its activity and secondly in secondary and tertiary sectors of economy through creation of economic tools with completion of 'commercial, industrial and institutional type of activity'. While resultant economic benefits spills over boundaries of its location, housing and other civic constraints thereby generated are entirely restricted to centres of construction activity.

1.3 The nature and type of construction activity at a centre and Concentration Centres of such activity provides an important indicator of the type and nature of future economic activity to come and also in visualizing nature and type of human settlements in and around centres of activity. The current

housing and building activity data thus, if analysed continuously over a sufficiently long time span would yield valuable information to planners and policy makers entrusted with the task of human settlements to choose between various constraints necessary for efficient working and relaxed living for varied type of settling humans. The present paper is only an attempt to throw out some analytical data which may be of some use to find solutions of some such problems described above.

## 2. Data of current housing and building activity and its drawbacks.

2.1 The data of current housing and building activity was almost non-existent in India till the middle of current decade. Through concerted efforts of National Buildings Organization and Department of Works, Housing and Urban Development, the data of current housing and building activity undertaken by Public Sector construction agencies such as Central Public Works Department, Military Engineering Services, Posts & Telegraphs, etc. have started flowing to National Buildings Organisation on a prescribed proforma. Statistical machinery for collection of States public sector and private sector data is yet to be geared properly. It may therefore sometime before construction activity data are fruitfully analysed and its likely useful results are available to planners, administrators and policy makers etc.

2.2 The paper analyses current housing and building activity data of Central Public Works Department for works started/sanctioned by the Department from April, 1963 to March, 1969 in southern Region of India comprising of Mysore, Andhra Pradesh, Tamil Nadu, Kerala and Union Territory of Pondicherry. The works of the union territory have been merged with State of Tamil Nadu. Out of many variables of the prescribed schedule which data flows to National Buildings Organisation, the analysis has been attempted for (i) type of construction activity; (ii) Centres of Concentration of activity; (iii) money value or estimated costs of works at the time of sanction and (iv) impact of construction on labour force market.

2.3 The data have been analysed for construction works each costing Rs. 20,000 or more with separate technical sanction. Within a main project such as construction of a hospital, mill, etc. nomenclatured here as 'main project', there may be number of works of varied types as 'residential, non-residential, etc.' etc. each costing Rs. 20,000 or more and having separate technical estimates. Such works have been nomenclatured as sub-projects and have been classified by their functional types viz. sub-project 'residential dwelling' in a main project hospital complex has been classified under 'residential activity' rather than under institutional activity. The works have also been as

external works if work relates to outside structure such as land development, laying external sewerage, roads, paths, etc.

2.4 Each sub-project usually involves internal works relating civil, sanitary, electrical and external portions. Sub-projects for internal works have been identified by their civil works. The sanitary works costs in these work even if costing more than Rs.20,000 with separate sanction no. have been amalgamated with costs of their civil works.

### 3. Analysis of Data:

3.1 Central Public Works Department during the reference period April 1963 to March 1969 was engaged in Southern Region of India in construction of 70 main projects. Table 1 shows that 29 of these projects were located in Tamil Nadu and 19 were in Andhra Pradesh. Mysore and Kerala had almost similar number of projects 12 and 11 respectively. Class I cities each with a population of a lakh or more claimed predominant share of these with 53 out of 70 projects located in them. The remaining 12 projects in other urban centres 11 being in towns with populations of 50,000 or less and only one was located in Class II town with population less than a lakh but more than 50,000.

3.2 71 main projects had among themselves 398 sub-projects. Of these 161 sub-projects pertained external works and the remaining 242 projects were for civil, sanitary works. Table 1 shows that like main projects, Tamil Nadu had largest number of sub-projects.

Table 1: Distribution of sub-projects by type of activity and State.

State	No. of main projects	Type of activity of sub-projects							Total
		Residential family	Residential non-family	Commercial	Industrial	Institutional	Others	External	
	1	2	3	4	5	6	7	8	9
Andhra Pradesh	18	33	8	27	3	2	8	35	106
Kerala	12	18	1	10	4	1	3	23	62
Mysore	11	5	3	7	1	1	-	9	56
Tamil Nadu	29	38	9	25	13	13	6	30	241
Total	71	92	21	69	21	17	17	161	398

accounting for nearly half the number of sub-projects in Southern Region of India. Andhra Pradesh had another 30 per cent. The Mysore had minimum share in the works sanctioned by the Department. Nearly 45% of internal works were shared by commercial, industrial and institutional type of projects which go in to create economic tools for generation of economic activity and nearly two-fifths of such works were residential family and non-family type activity.

3.3 The states in Southern Region of India according to 1951 Census have among them-selves. 890 towns of which 50 were class I each with population of a lakh or more 42, class II each population between 50,000 and 99,999. The remaining 318 were in town sizes of less than 50,000 or less. The region has three metropolitan centres each with population of a million or more, the class I towns were having population of more than a lakh but less than five lakhs. The data of sub-projects indicates concentration of C.P.W.D. activity in class I towns and only one fifth of sub-projects were located in towns of population 50,000 or less. This pattern is also observed in Mysore, Andhra -

Table 2: Distribution of sub-projects by Centres of concentration and state

State	Centres of Concentration			Total
	Class I	Class II	Class III to VI	
Andhra Pradesh	104	1	11	116
Kerala	28	-	37	65
Mysore	26	-	-	26
Tamil Nadu	151	-	40	191
Total- SR	309	1	88	398
Main-Projects	57	1	12	70

Pradesh and Tamil Nadu while reverse trend is visible in case of Kerala. In class I towns internal works are almost equally divided between residential and non-residential activity (Table-3). Similar pattern is also observable



Table-3: Distribution of sub-projects by type of activity and centres of concentration

Type of Town	No. of towns	Type of activity								Total
		Res. fami ly.	Res. non-family	Comm-ercial	Indus-trial	Insti-tutional	Other personal	Enter		
1	2	3	4	5	6	7	8	9	10	
Class I	13	73	16	59	19	5	11	135	308	
Class II	1	8	1	3	2	-	-	4	13	
Class III to VI	8	11	4	17	-	12	6	22	72	
Total-3R	22	92	21	69	21	17	17	161	398	

in class III to VI towns. It may further be mentioned that construction activity was limited to only 22 centres out of 300 in the Region. Even among them, the activity was not equitably distributed over Centres of activity but was heavily loaded in few centres while other Centres of activity had marginal share. This may be seen from table 4. The table shows that nearly two-thirds of works were located in three metropolitan towns in the region and two State capitals of Andhra Pradesh and Tamil Nadu shared nearly 53 per cent and other 13 percent were located in Bangalore.

Table 4: Distribution of main and sub-projects by Centres of activity

Town	Population (lakhs)	No. of main projects	No. of sub-projects								Total
			Res. fami ly.	Res. non-family	Comm-ercial	Indus-trial	Insti-tutional	Others	Enter		
1	2	3	4	5	6	7	8	9	10	11	
Madras	17.29	15	28	2	9	8	1	2	56	104	
Coimbatore	2.86	5	6	2	7	4	1	1	18	29	
Hyderabad	12.51	9	20	9	14	3	1	2	23	72	
Vishakapatnam	1.82	5	9	-	7	1	-	4	7	29	
Bangalore	12.00	9	5	3	7	1	1	-	9	26	
Other class I	-	7	6	-	15	2	1	2	22	55	
Total Class I	-	57	72	16	59	19	5	11	135	308	
Class II to VI	-	13	19	5	10	2	12	6	26	30	
Total-3R	-	70	91	21	69	21	17	17	161	398	

4.1 C.P.W. D. construction works in the region as described in foregoing paragraphs involved an estimated amount of Rs. 994.94 lakhs as shown in table 5. The table shows Andhra Pradesh and Tamil Nadu as dominant sharers of Central Public Works Department regional housing and building constructional activity

Table 5: Estimated cost of works by state and type of activity

State	Estimated Cost of Works (Rs. lakhs)							Total	% to total
	Residential		Comm. al.	Indus. trial	Insti. tutio. nal	Others	Ext. rnal		
	family	Non-family							
1	2	3	4	5	6	7	8	9	10
Andhra Pradesh	115.82	32.97	243.88	14.62	1.14	0.97	16.12	425.52	42.7
Kerala	22.98	0.72	17.10	19.92	0.39	0.95	14.24	76.30	7.6
Mysore	11.88	9.85	12.33	4.23	0.61	-	-	28.90	2.9
Tamil Nadu	115.39	53.76	154.39	40.68	69.06	2.86	28.02	464.22	46.6
Total-5R	256.07	97.30	427.70	79.45	71.20	4.73	58.44	994.94	100.
% to total	25.73	9.78	42.99	7.98	7.16	0.49	5.87	100.00	-

accounting for nearly 90 per cent of total. Mysore had little share with only 2.90 percent of the total. The table shows commercial and industrial activity claimed major share with nearly half of the total activity followed by 'residential activity' with one-third share; one-fourth of for family type and one-tenth for non-family type. The external works accounted for 5.87 percent of total activity. It may thus be seen construction activity which goes on to generate economic activity accounted for nearly three-fifth of regional construction.

4.2 The large slice of construction activity was done in Class I towns and this accounted for almost four-fifth of the total activity and the remaining one-fifth was in small urban centres of class II to VI (Table 6). These were almost negligible activity in class II towns. The table indicates that bigger towns are dominating in 'commercial and industrial activity' accounting for almost 60 percent of regional activity and one-third was of residential both family and non-family type. Further it is significant to note that almost 96 per cent of commercial and industrial activity of the region was carried out class I towns. Whereas residential activity in these towns was considerably less four fifths of total residential activity.

Table 6:- Estimated cost of works by centres of concentration and type of activity

Town type	Estimated cost of works (Rs. lakhs)								% to total
	Residential		Comm	Indus	Insti	Others	Exter	Total	
	Family	non-family	ercial	trial	tutio		nal		
1	2	3	4	5	6	7	8	9	10
Class I	211.12	61.60	415.12	75.41	1.40	1.86	40.11	806.62	51
Class II	-	-	5.00	-	-	-	0.26	5.26	0.
Class III to VI	44.95	35.71	7.58	4.04	69.30	2.92	13.07	133.07	13.
Total - SR	256.07	97.31	427.70	79.45	71.20	4.78	53.43	994.94	100

4.3 As has already been mentioned before, out of 890 urban centres in the Region, there are few centres where Central Public Works Department was concentrated. Four Urban Centres of the region accounted for nearly three-fourths of regional construction activity - the two metropolitan centres Madras and Hyderabad accounted for nearly 56 percent of it and the remaining 16.5 percent was in Coimbatore and Vishakapatnam. The other 9 class I towns (Table 7) where some Central Public

Table 7: Estimated cost of works by town and type of activity

Town	Estimated cost of works (Rs. lakhs)								% to total
	Residential		Comm	Indus	Insti	Others	Exter	Total	
	Family	non-family	ercial	trial	tutio		nal		
1	2	3	4	5	6	7	8	9	10
Madras	77.36	7.37	109.84	13.49	0.12	0.56	12.02	225.77	22.57
Coimbatore	19.30	11.41	29.94	21.62	0.45	0.21	9.16	91.99	9.15
Hyderabad	46.09	32.97	226.02	14.31	0.22	0.69	11.54	331.33	33.13
Vishakapatnam	65.30	-	7.19	0.34	-	-	0.60	73.43	7.34
Bangalore	0.94	9.85	11.62	4.23	0.61	-	-	27.25	2.72
Other Class I	2.03	-	30.51	16.46	-	0.40	8.39	57.25	5.72
Total Class I	211.12	61.60	415.12	75.41	1.40	1.86	40.11	806.62	80.66
Class II to VI	44.95	35.71	12.58	4.04	69.30	2.92	13.07	133.32	13.33
Total - SR	256.07	97.31	427.70	79.45	71.20	4.78	53.43	994.94	100

Works Department construction activity was carried out shared only 8.5 percent of the total activity. The commercial and industrial activity of the regions was primarily concentrated in

metropolitan Centres, Madras and Hyderabad. These two Centres almost sliced away 70 percent of regional commercial and industrial activity.

5. Impact on labour force and housing.

5.1 The present analysis has brought out dominant part of commercial and industrial activity which goes to generate economic activity and is consequently magnetic force to invite migrants to centres of such activity. This activity in the region was mostly concentrated in Hyderabad and Madras, - two of the three metropolitan centres of the region. Even glance at locations of public sector industrial and commercial undertakings also reveals their establishment at all the three metropolitan centres only and very little activity has gone to other urban centres. The construction activity generates employment potential due to its own activity and due to economic tools created by it. Based on analysis of labour returns received in National Buildings Organisation, it has been estimated that investment per man-day of Central Public Works Department projects is Rs. 17.60<sup>(1)</sup> and assuming construction labour skilled and unskilled remains gainfully employed for 8.39 months or nearly 250 days in a year, employment potential generated by Central Public Works Department for its annual construction activity is estimated to be around 4000. In addition large employment potentials are generated through economic activity of resultant economic tools of construction activity e.g. Indian Telephone Industries which started as first public sector industrial undertaking on a small scale now employs nearly 14,000 workers.<sup>(3)</sup> It may however be mentioned that for another reference period may or may not provide same conclusions as provided by data under reference. But importance of analysing such data over continually long time span cannot be minimized in order to develop trend analysis of regional local housing and building construction activity.

5.2 While non-residential construction activities generate large employment potential, 'residential activity' of Central Public Works Department during the reference period has only been to the extent of 2443 dwellings of all types as shown in Table 8. Assuming one dwelling for a household, the

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1. 'employment in construction industry and its relation to investment and wages', Journal of National Buildings Organisation, Vol. XII, No. 2, Oct. 1967, pp.
  2. 'Employment in Construction' by Shri S. N. Guha, Thakurta, Economic and Political Weekly vol. V, No. 2 pp. 521-527.
  3. Based on an advertisement in 'Nav Bharat Times' Delhi dated 20.9.70

Table 8: Dwellings by Town type

Town	Type of dwellings (no.)				Total	% to total
	One room	Two room	Three room	Four or more rooms		
1	2	3	4	5	6	7
Madras	35	67	198	63	363	14.86
Coimbatore	114	187	8	1	310	12.69
Hyderabad	183	384	34	35	636	26.03
Vishakapatnam	-	516	132	-	648	26.52
Other class I	6	10	18	3	46	1.83
<b>Total Class I</b>	<b>338</b>	<b>1173</b>	<b>390</b>	<b>102</b>	<b>2003</b>	<b>81.93</b>
Poindicherry	-	100	44	3	147	6.03
Other class II-VI	162	96	28	9	295	11.99
<b>Total</b>	<b>162</b>	<b>196</b>	<b>72</b>	<b>12</b>	<b>442</b>	<b>13.02</b>
<b>Total-SR</b>	<b>500</b>	<b>1369</b>	<b>462</b>	<b>114</b>	<b>2445</b>	<b>100.00</b>

construction activity during six years has been just sufficient to offer housing to only 2445 households. Of this two metropolitan centres which had dominant share in commercial and industrial activity had addition to their housing stocks by nearly 1000 units just sufficient for 1000 households. In pure numerical terms, the increase in housing stock is not even sufficient to meet demands of construction activity employment potential not to say for economic activity generated by such activity during the reference period itself.

6. Construction activity and housing programmes

Little current housing and building activity data of Central Public Works department so far available is sufficiently indicative of skewed concentration centres in the region. Such construction activity introduces imbalances within region and initiates forces of push-pull factors. At local level, it results in development of civic constraints and tensions such as scarcity of urban land, rise in land values, transport problems, etc. This may be visualized from the fact that Hyderabad city witnessed astronomical rise of 1567, 1900 and 300 percent<sup>(4)</sup> rise of land values in 'Central and functionally important areas' 'undeveloped areas in municipal limits' and 'surrounding areas outside

4. 'Controlling urban land values' by Shri Jayanta Radho Economic & Political Weekly, special Number, Urbanization, July 1969, pp. 1197-1202.

municipal limits'. Similarly other local problems also aggregate. Secondly non-residential constructional activity act as magnetic points for large influx of people while gap between 'residential' and 'non-residential' activity do not provide influxing population any sheltering hope. The gap between two activities results in development of slums, squatters, etc. and attendant social evils of bad housing. Madras city comprising of 37 percent of migrant population had in 1961 nearly 25 percent of its population living in 584 slums. This rose by 1969 to nearly 43 percent or 9 lakhs of its 21 lakhs population and number of slums rose from 584 to 640. (5) Residential and non-residential construction activities in urban centres and in big metropolitan towns in particular should not be considered in isolation but have to be integrated with each other at local level as a part of well thought out regional urban and rural renewal plan. The housing programmes unrelated to nature and type of non-residential activity and influxing population seeking economic opportunities would collapse even before standing on their feet.

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5. The Hindustan Times dated 14.7.69

Building Activity in the Public  
undertakings in the Southern Zone.\*

by  
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( The study is based on an analysis of the data relating to new building projects constructed/in progress by the Public undertakings during the period October 63 - March 70 in the Southern Zone. The paper discusses the value of work done, floor area added by types of construction and location of the project and also the floor area and cost of construction per dwelling unit in the case of residential buildings constructed in the different states).

I. Introduction-

The expenditure on construction of factory buildings and townships in public undertakings constitutes a significant proportion of their total investment. The total value of investment (gross block) in the Central Government Undertakings for the year ending March 69 amounted to Rs.3,463 # crores as against Rs.3,042 Crores for the year 1967-68. The above value of investment does not include the investment in departmental undertakings or financial institutions. Buildings, electricity, water supply and sanitary installation, etc. accounted for Rs.524 crores. -----

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- \* Southern Zone comprising the states of Andhra Pradesh, Kerala, Mysore and Tamil Nadu.
- @ The views expressed here are of the author and not of the National Buildings Organization. Assisted by Shri Man Singh Mathur in the tabulation of data.
- # Annual Report of the Working of Industrial and Commercial undertakings of the Central Government 1968-69- Bureau of Public Enterprises, Ministry of Finance, Government of India.

or about 15 per cent of the total capital assets. To appreciate the growth of the Public Sector during the last two decades since independence the total investments in the Public Sector undertakings at the commencement of each of the Five Year Plans are given below:-

Table 1. The investments in Central Govt. undertakings #

Period	Total investments (Rs. Crores)	Number of units
(1)	(2)	(3)
At the commencement of the first Five Year Plan	29	5
At the commencement of the Second Five Year Plan	81	21
At the commencement of the Third Five Year Plan	953	48
As at 31.3.1966	2415	74
As at 31.3.1967	2841	77
As at 31.3.1968	3333	83
As at 31.3.1969	3902	85

2. The investment in the shape of equity and loans in the undertakings other than departmental projects of the Central Government at the commencement of the First Five Year Plan thus was of the order of only about Rs. 29 crores. By the end of the Second Plan the investment had risen to Rs. 81 crores. During the Third Plan it reached a figure of Rs. 2415 crores and at the close of March 1969 it was of the order of Rs. 3902 crores. This figure of investment in the Public Sector does not include the investment in the corresponding undertakings of the State Governments.

3. Statewise distribution of investment (gross block) as at the end of March 69 showed that for the Southern Zone comprising the states of Andhra Pradesh, Kerala, Mysore and Tamil Nadu the investment amounted to Rs. 530 crores or about 15 percent of the total capital assets of all the Public undertakings. It can be assumed that buildings, electricity, water supply and sanitary installation might have accounted for Rs. 75 crores to 80 crores in this total amount as the investments in construction of townships alone in 17 of these undertakings was about Rs. 39 crores as at the end of 1967-68. (Annex.1) The list of the Central Government undertakings numbering 30 located in the four states are given Annex.2.

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4. As part of the implementation of the statistical scheme "current Housing and Building statistics" the data on new building construction additions and alterations costing Rs.20,000 and above for each project undertaken by the Central Construction Agencies (i.e. C.P.W.D., M.E.S. Railways, P & T and Public undertakings) during the half year ending March and September each year are received in the National Buildings Organisation. The main items of data collected under the scheme related to information on project location, type and nature of construction, floor area, number and type of dwelling units, period of start/completion, estimated cost and value of work done. The individual project for which there exists a separate technical estimate sanctioned is used as the statistical unit of the enquiry which has the advantage that the scope and coverage will not depend on the kind of builder (construction enterprise), secondly the projects can be classified by type of building (residential, industrial, commercial, etc.) and by location. Also this enables the enumeration of the completed projects in physical units.

5. The collection of data on housing and building statistics presents many complex problems because of the special features of the construction industry such as (i) the extremely mobile character of the construction activity (ii) Seasonal nature of the activity as a major part of the work is carried out in the open air (iii) relatively long period of production of the products (iv) existence of a wide variety of units including large and small private and public construction enterprises working on own account and on others and (v) prevalence of contracting/subcontracting whole or part of construction work. Any study dealing with construction sector has to take into account these factors.

## II

### Analysis of the data

6. The present study makes an attempt to analyse the data relating to new building construction works costing Rs.20,000 or more for each undertaken during the period October 63 to March 70 by the Central Government undertakings in the Southern Zone comprising the States of Andhra Pradesh, Kerala, Mysore and Tamil Nadu. As no returns have been received from any undertakings in the union Territories of Pondicherry and Laccadive, Minicoy, Amindive Islands these have not been included here. Public undertakings for the purpose of this study include among others the Madras Port Trust, the Life Insurance Corporation of India and the State Bank of India as will be seen from Annex.3. The location of the projects has been considered as the main criteria for studying the building activity in the different states and not the locations of the undertakings. The two are different as one undertaking with its head office in one place may have its projects constructed in different states.

7. Mention may be made here of some of the drawbacks noticed in the filled in schedules such as information not furnished separately for the individual projects, type of construction in some cases, value of work done during the half year period not reported, period of start/completion not specified etc. in the case of some projects. An anomalous situation that came across while going through the progress of the individual projects is that some projects are completed according to the date of completion mentioned in the schedule but the value of work

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done is still furnished for these projects during the subsequent half year periods. This is because part of the payment due to the contractor are kept in abeyance for some time by the authorities and paid to them in subsequent instalments after the project is physically completed. Further as per instructions laid down in the schedule the value of work done includes the cost of materials incorporated in the structure, cost of labour performed and appropriate overhead costs incurred on the project during the period but what is given in practice by the construction agencies is the amount of payment made to the constructors during that period. Another point to be mentioned is about the difficulty faced in analysing the cost of construction. One serious drawback in this is that the buildings are taken up and completed at different periods of time and secondly they differ in design, materials, finishes used, number of floors etc. even within the same type of construction and hence wide variations are bound to occur particularly between different types of buildings constructions. The variation on construction costs over time has been ignored in the present analysis. What the analysis thus aims at is just to find out some rough estimates of costs of construction for different types of buildings and dwellings. Where information on total value of work done is not available for any project it is presumed the same as the estimated cost. Date of completion has been taken as reported in the schedules. Wherever information regarding value of work done subsequent to the date of completion is reported the same is included in the total cost. These are some of the limitations in the data which will have to be kept in view while going through the analysis.

8. Annex 4 gives the number of completed projects in different half year periods and the projects in progress at the end of the period, i.e. March 1970 by states. A total of 301 projects were completed during this period and also 103 projects were under construction in the public undertakings. The construction of almost all the projects were executed through contractors only. Of the projects 301 projects completed during the period October 63 to March 70 130 were located in Tamil Nadu, 86 were in Andhra Pradesh, 50 were in Kerala and 35 were in Mysore. This, however, does not indicate a statewise picture of building activity, it only shows the number of building projects completed ~~in progress~~ in physical <sup>of</sup> units in these states by the Government of India undertakings during this period. As the undertakings are at natural that the building activity will not be the same in all the states. Moreover the size of the projects vary. Analysis by type of projects (Annex.5) showed that nearly three tenths of the buildings completed were industrial buildings and one fourth each were commercial and residential family buildings. Among the buildings "in progress" 35 were commercial buildings, 30 industrial buildings and 20 residential family buildings.

9. The distribution of the projects both completed and "in progress" by State and type of building are given in Annex.6. Thirtyseven out of the 130 projects completed in Tamil Nadu belonged to commercial buildings while in Andhra Pradesh 29 out of the 86 completed projects were industrial buildings and 25 residential family buildings. Of the 35 commercial projects "in progress" 14 were located in Andhra Pradesh and 10 in Mysore.

10. The enumeration of the individual projects as shown above does not convey a meaningful picture of current building activity as the size of the project is not the same in all the cases, in fact it varies for each individual project. It is, therefore, considered desirable to analyse other important characteristics of the data such as estimated cost, value of work done on the project, time taken for completion, floor area added, numbers and type of dwelling units constructed etc.

11. The estimated cost and value of workdone on the 301 completed projects by type of building are given in Table 2. The value given here relates to all the work done on the projects without regard to the period when the work was done (i.e. from the beginning of the construction work until the completion of the project.).

Table 2: Value of workdone and the estimated cost by type of building in respect of completed projects.

Type of building	value of work done (Rs.in Lakhs)	Estimated cost	value of workdone in percent age.	Ratio of value of workdone to estimated cost	No. of projects.
(1)	(2)	(3)	(4)	(5)	(6)
Residential					
(i) family	408.25	435.73	22.0	0.94	69
(ii) Non-family	42.88	48.98	2.3	0.88	19
Industrial	1011.14	1029.59	54.4	0.98	87
Commercial	319.41	345.80	17.2	0.92	74
Institutional	26.85	27.23	1.5	0.99	26
Other buildings	48.67	52.31	2.6	0.93	26
<b>Total</b>	<b>1857.20</b>	<b>1939.64</b>	<b>100.0</b>	<b>0.96</b>	<b>301</b>

12. The total value of workdone on the 301 completed projects amounted to Rs.18.57 crores as against an estimated cost of Rs.19.40 crores. A comparison of the value of work done and the estimated cost showed that the ratio of value of work done to estimated cost was less than in the case of all types of buildings. It was the lowest in the case of residential non-family buildings and almost equal to in the case of institutional and industrial buildings. This ratio may have relation to the building materials cost and the wage levels prevailing at different places. As such its actual behaviour may be rather difficult for analysis unless detailed studies are carried out.

13. The investment by type of buildings would show that more than half of the total value of work done was in respect of construction of industrial buildings, above one fourth in respect of residential buildings and nearly one sixth for commercial buildings. Thus the commercial buildings though more in number as compared to residential buildings, the value of work done or the investment on these buildings was less compared to residential buildings.

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14. An idea of the size of the projects can be had from the data of value of workdone on completion or from the estimated cost of the project. About 37 percent of the completed projects cost Rs.1 lakh and below, 26 percent cost between Rs.1 lakh and 3 lakhs, 11 percent cost between Rs.3 lakhs and Rs.5 lakhs, 13 percent cost between Rs.5 lakhs and Rs.10 lakhs and 13 percent cost above Rs.10 lakhs. About one fourth of the industrial buildings completed belonged to the high cost range above Rs.10 lakhs. Nearly 40 percent of the residential family buildings completed belonged to the cost range of Rs.1 lakh and Rs.3 lakhs(Annex

15. There appears to have some correlation between the time taken for completion of a project and its cost as will be seen from Annex.8. About 60 percent of the projects were completed within a period of 18 months the remaining 40 percent of the projects took more than 18 months for completion of the projects which were completed within 18 months time fourths belonged to the cost range of "less than Rs.3 lakhs". Against among the projects which took more than 18 months for completion 58 percent were in the cost range of "more than Rs.3 lakhs". The high cost projects take longer time for completion than low-cost ones because of the formers complexity and greater on site and off site operations.

16. Out of the 301 projects completed during the period October 63 to March 70, 45 were taken up before October 63 and the remaining 256 were taken up and completed during the period. A distribution of start and completion of these projects is given in Annex.9.

17. Building projects generally remain in progress for more than one half year as seen from the above. Because of the relatively long period of production of the products it is necessary to measure the amount of workdone on unfinished products also for assessing the volume of building activity. The output in building construction industry for an half year period has, therefore, to be defined as the total value of work put in place during that period. The value of workdone in each half year period for the 6½ years on all projects started, in progress and completed are given in Annex.10 which would show the investment pattern in building construction in the public undertakings during this period.

18. During the six and half year period under reference, an investment of nearly Rs.21.23 crores was made in new building construction works in these states by the public undertakings. Nearly 60-per cent of this was made in the first three years. The investment in the last one year appears to be much less which may be due to all the returns might not have been rendered by the agencies. The investment in building activity appears to be more in the latter half year periods as compared to the former half year periods in almost all the cases. This may perhaps be due to the fact that the construction agencies were interested in spending the sanctioned amount within the financial year itself as otherwise the funds may be lapsed. Fiftyfive percent of the total investment was made in the construction of industrial buildings such as factories, plants, workshops; twenty one percent in the construction of residential family buildings and about nineteen percent in the construction of commercial buildings like shops, warehouses, offices and public garages. The investment in the construction of institutional buildings appears to be very

low which may be due to the fact that the undertakings are at various stages of construction and all of these may not be having their separate townships constructed and also perhaps in some cases in their initial stages of development the undertaking may be giving less priority for this and more concerned with the building up of their industrial complexes.

19. The value of workdone by state would show that about Rs.9.26 crores or about 44 percent of the total was in respect of Tamil Nadu, next to which was in respect of Andhra Pradesh (34 percent), in respect of Kerala (13 percent) and in respect of Mysore (9 percent). In all the four states non-residential constructions accounted for the major share of investment (Annex.11).

20. The investment in buildings, in return makes available some useable floor space. The figures of useable floor space could be derived from data of completed projects only as projects "in progress" do not have any significance in so far as physical comfort derivable from monetary investment is concerned consequently there may not be any direct relationship between investment and floor space available at the end of a half year period.

21. A total of 87.81 lakhs sq.ft.of floor area(Annex 12) was available from the projects completed. Nearly 63 percent of the area was in respect of industrial buildings 19 percent in respect of residential family buildings and 11 percent under commercial buildings.

22. Statewise distribution of the floor area available in respect of completed projects for residential and non-residential buildings are given in Annex 13. Of the total of 87.81 lakhs sq.ft.of floor area available in the 301 projects constructed about 47 lakhs sq.ft.of area(55 percent) was in respect of Andhra Pradesh and 26.98 lakhs sq.ft.of area was in respect of Tamil Nadu.

23. Norms of consumption materials, investment, employment, etc. are valuable guides for civil engineers, architects, administrators and planners for purposes of formulation of housing policies and housing programmes. Norms could be derived for cost /100 sq.ft.of area, area per dwelling unit, cost per dwelling unit, etc. Building up of norms requires exhaustive data on various aspects of building, e.g., design type of construction, nature of finishes, equipment used etc. These norms are likely to be influenced by type of structure (single, double or multistoreyed), as well as by variation in the level of prices of building materials and wages of building labour. But in order to have a rough idea about the cost of construction for the various types of buildings, the cost /100 sq.ft.of floor area by type of building/state has been worked out from the available data and presented in Annex.14.

24. Neglecting overtime variations in costs the cost of construction per 100 sq.ft. of floor area for residential family buildings works out to Rs.2416, for non-family buildings Rs.2430, for industrial buildings/Rs.3103, for institutional buildings Rs.2076 and for other buildings Rs.2708. The cost of construction in respect of Andhra Pradesh came to Rs.2495 per 100 sq.ft. of floor area as against Rs.3193 for Tamil Nadu. The cost of construction in the case of Tamil Nadu was higher because of some of the high cost industrial projects (i.e. Thermal plant building at Meyveli etc.). The cost of residential family buildings works out to Rs.3150 per 100 sq.ft. of floor area for Kerala as against about Rs.2232 for Andhra Pradesh, Rs.2334 for Mysore and Rs.2323 for Tamil Nadu.

25. One hundred and three projects were reported to be "in progress" at the end of March 1970. The total value of work done on these projects since beginning amounted to Rs.3.66 crores as against an estimated cost of Rs.5.97 crores thus showing that nearly three fifth of the work in respect of the projects has been completed (Annex.15).

26. Provision of accommodation facilities especially to the industrial workers has a direct bearing on their efficiency and productivity. With the rapid industrialisation coupled with the rapidly growing urban population the housing conditions of industrial workers are deteriorating continually. With a view to relieve housing shortage for industrial workers the Government of India in 1952 introduced the subsidised industrial Housing Scheme. The scheme is being implemented through the State Governments, Statutory Housing Boards, Industrial Employers and Registered Co-operative Societies of Industrial workers.

27. It is seen from Annex.1 that the investments in construction of townships in 17 of the public undertakings in the Southern Zone for which the information was available was about Rs.38.6 crores or about 10.6 percent of total cost of the projects at the end of 1967-68. The total number of houses constructed in these townships was 26,913. From the analysis that was made in the foregoing paragraphs it is seen that 67 out of the 301 projects completed in the various states were residential family buildings for accommodating the staff of workers employed in the undertakings. These accounted for about 22 percent of the total investment and 19 percent of the total floor area of all buildings completed. A total of 3809 dwelling units were constructed in these four States, 55 percent of this constructed in Tamil Nadu, 33 percent in Andhra Pradesh and the remaining in Kerala and Mysore (Annex.16). The above shows that the provision of this desirable facility to employees has not been ignored by the undertakings.

28. The cost per dwelling unit by state/type, the cost per 100 sq.ft. of floor area of dwelling units by type and also the available floor space in such cases have been worked out and presented below. As the information on value of work

done and floor area are not available for the different types of dwelling units separately in the case of some projects it has been decided to exclude these from the present study. It will be seen from Annex.17 that out of 2709 dwelling units for which the required information is available 1,108 were two room units, 776 were one room units, 552 were three room units and 273 were four or more room units. It will be seen from the available data that the cost of construction on an average of three room unit is about twice that of a single room unit and that of a two room unit is about one and five eighths of a single room unit.

29. The cost of construction of dwelling units for the two states Andhra Pradesh and Tamil Nadu was more or less the same while that of Kerala and Mysore varies widely. Such wide variations in costs maybe due to a multiplicity of factors, viz., change in design, variation in floor area, number of floors, better materials finishes used, changing levels of prices of materials and wages of labour prevailing at different centres. Toppin point the causes underlying the variations exhaustive type studies will be needed which has not been attempted here.

30. The average cost per 100 sq.ft.of floor area and the average floor area per dwelling unit by state and type of dwelling unit are presented in Annex 18. Wide variations are noticed in the cost of residential building constructions between states. Also the average floor area per dwelling unit in the same type even varied widely.

### III Summary and conclusions.

What have been stated in the earlier paragraphs have been summarised and given below:-

(i) The analysis deals with new building projects undertaking in the Southern Zone comprising the States of Andhra Pradesh, Kerala, Mysore and Tamil Nadu by the Public undertakings. Public undertakings for the purpose of this study include Government of India, companies, statutory bodies and Registered societies under the administrative control of the Union Government.

(ii) Three hundred and one new building projects each costing Rs.20,000 or more were completed during the period Oct.63 to March 70. Of these, 45 projects were taken up before Oct.63 and the remaining 256 were taken up and completed during the period. One hundred and thirty of the projects completed were in Tamil Nadu, 86 were in Andhra Pradesh, 50 were in Kerala and 35 were in Mysore. Thirty seven out of the 130 projects completed in Tamil Nadu belonged to commercial buildings while in Andhra Pradesh 20 out of the 86 completed projects were industrial buildings and 25 residential family buildings. In addition, there were 103 projects "in progress"

at the end of March 70.

(iii) The total value of work done on the 301 projects completed amounted to Rs.18.57 crores as against an estimated cost of Rs.19.40 crores. More than half of the total value of work done was in respect of construction of industrial buildings, about one fourth in respect of residential buildings and nearly one sixth for commercial buildings.

(iv) About 26 percent of the completed projects belonged to the cost range of "above Rs.5 lakhs". Nearly 40 percent of the residential family buildings completed were in the cost range of "Rs.1 lakh and Rs.3 lakhs". Also one fourth of the cost range of "above Rs.10 lakhs". ~~the industrial buildings completed belonged to~~ ~~the industrial buildings completed belonged to~~

(v) Sixty percent of the projects were completed within a period of 18 months and the remaining 40 percent of the projects took more than 18 months for completion. The high cost projects generally took more time for completion.

(vi) An investment of nearly Rs.21.23 crores was made in building construction activity during the six and half year period; of which 55 percent was spent for the construction of industrial buildings, 21 percent for the construction of residential family buildings and about 19 percent for the construction of commercial buildings.

(vii) About Rs.9.26 crores or 44 percent of the total investment in building activity was in Tamil Nadu, next to which was in Andhra Pradesh (34 percent), Kerala (13 percent) and Mysore (9 percent). Non-residential construction accounted for the major investment in all the states studied.

(viii) A total of about 87.81 lakhs sq.ft. of floor area was available from the projects completed; 63 percent of it was in respect of Industrial buildings and 19 percent of it area was in respect of residential family buildings.

(ix) About 47 lakhs sq.ft. of floor area (55 percent) of total was in Andhra Pradesh and 27 lakhs sq.ft. was in Tamil Nadu.

(x) Neglecting overtime variations the cost of construction per 100 sq.ft. of floor area for residential family buildings was Rs.2416, for industrial buildings Rs.3141, for commercial buildings Rs.3,103, for institutional buildings Rs.2076 and for other buildings Rs.2708. The cost of construction in Andhra Pradesh was Rs.2495 per 100 sq.ft. as against Rs.3193 for Tamil Nadu.

(xi) The total value of work done on the 103 projects "in progress" amounted to Rs.3.66 crores as against an estimated cost of Rs.5.97 crores.

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(xii) The number of dwelling units constructed in residential family buildings totalled 3809, fiftyfive percent of this was constructed in Tamil Nadu and 33 per cent in Andhra Pradesh.

(xiii) Generally speaking taken the Southern Zone as a whole the cost of construction of a three room unit is about twice that of a single room unit and that of a two room unit is about one and five eighths of a single room unit.

(xiv) Wide variations are noticed in the cost of residential building constructions between states. Also the average floor area per dwelling unit in the same type even varied widely.

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Annex 1:- Project costs, investments in townships in respect of 17 Public Enterprises in Southern Region as at the end of 1967-68.

S. No.	Name of Project/Unit	Cost of project (Rs. in crores)	Investment in township (cost in Rs. in crores)	Percentage to the cost of project	Total No. of houses.
1	2	3	4	5	6
1.	Bharat Heavy Electricals Ltd., H.P.E.P. Hyderabad.	33.82	4.06	12.01	2307
2.	Indian Drugs and Pharmaceuticals Ltd., Synthetic Drug Project, Hyderabad.	21.35	1.35	6.31	747
3.	Hindustan Machine Tools Ltd. (H.M.T. V) Hyderabad.	8.58	0.55	3.69	403
4.	Hindustan Shipyard Ltd., Vizakhapatnam.	6.16	1.06	17.22	1666
5.	Fertilisers and Chemicals Travancore Ltd., Alwaye.	10.82	1.12	10.33	586
6.	Hindustan Machine Tools Ltd. (HMT IV), Kalambary.	8.40	0.45	5.32	328
7.	Indian Rare Earth Ltd., Alwaye.	1.00	0.14	13.53	17
8.	Hindustan Insecticides Ltd., Alwaye.	1.01	0.16	15.84	73
9.	Hindustan Aeronautics Ltd., Bangalore.	24.89	2.11	8.47	2338
10.	Hindustan Machine Tools Ltd., (HMT I & II), Bangalore.	9.38	1.95	20.79	1541
11.	Bharat Electronics Ltd., Bangalore.	9.40	1.30	13.85	1211

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Annex 1 (Contd..)

	2	3	4	5	6
2. Indian Telephones Industries Ltd., Bangalore.	8.01	1.47	18.40		1551
3. Bharat Earthmovers Ltd., Kolar.	19.56	1.14	5.80		652
4. Neyveli Lignite Corporation Ltd., .	165.05	15.34	9.30		9610
5. Bharat Heavy Electricals Ltd., Boiler Plant, Thiruchirappalli.	22.33	4.20	18.78		3000
6. Hindustan Photo Films Mafg. Co. Ltd., Ootacamund.	10.69	0.89	8.33		382
7. Indian Drugs and Pharmaceuticals Ltd., Surgical Instruments, Madras.	4.77	1.32	27.73		501
Total	365.22	38.61	10.57		26913

\* For the remaining 13 Public Undertakings either no townships have been constructed or no information available.

Source:- A Handbook of Information Public Enterprises, 1969, Bureau of Public Enterprises.

Annex 2: Public Sector Industrial and Commercial Undertakings b  
State in Southern Region as on 31st March, 1968.

State/Undertaking

1. Andhra Pradesh.

- (i) Bharat Heavy Electricals Ltd.
- (ii) Indian Drugs & Pharmaceuticals Ltd.
- (iii) Hindustan Machine Tools Ltd.
- (iv) Hindustan Shipyard Ltd.
- (v) Hindustan Aeronautics Ltd.
- (vi) Praga Tools Ltd.
- (vii) Bharat Heavy Plates & Vessels Ltd.
- (viii) Electronics Corporation of India Ltd.

2. Kerala

- (i) Fertilisers & Chemicals Travancore Ltd.
- (ii) Cochin Refineries Ltd.
- (iii) Hindustan Machine Tools Ltd.
- (iv) Indian Rare Earth Ltd.
- (v) Hindustan Latex Ltd.
- (vi) Modern Bakeries Ltd.
- (vii) Hindustan Insecticides Ltd.

3. Mysore

- (i) Hindustan Aeronautics Ltd.
- (ii) Hindustan Machine Tools Ltd.
- (iii) Bharat Electronics Ltd.
- (iv) Indian Telephone Industries Ltd.
- (v) Bharat Earthmovers Ltd.
- (vi) Tungabhadra Steel Products Ltd.

4. Tamil Nadu

- (i) Neyveli Lignite Corporation Ltd.
- (ii) Madras Refineries Ltd.
- (iii) Bharat Heavy Electricals Ltd.
- (iv) Hindustan Photo Films Mfg. Co. Ltd.
- (v) Indian Drugs & Pharmaceuticals Ltd.
- (vi) Hindustan Teleprinters Ltd.
- (vii) Oil and Natural Gas Commission.
- (viii) Indian Rare Earths Ltd.
- (ix) Modern Bakeries Ltd.

Total (1+2+3+4) = 39

Source:- A Handbook of Information on Public Enterprises  
Bureau of Public Enterprises.

Annex 3: List of Undertakings from which data received and utilised for the study.

1. Indian Drugs & Pharmaceuticals, Tamil Nadu.
2. Indian Drugs & Pharmaceuticals, Andhra Pradesh.
3. Hindustan Insecticides, Kerala.
4. Hindustan Machine Tools, Kerala.
5. Indian Telephone Industries, Mysore.
6. Madras Port Trust, Tamil Nadu.
7. Coffee Board, Mysore.
8. Life Insurance Corporation, Mysore.
9. Neyveli Lignite Corporation, Tamil Nadu.
10. Hindustan Photo Films Mfg. Co. Ltd., Tamil Nadu.
11. Indian Rare Earth Ltd., Kerala.
12. Cochin Refineries Ltd., Kerala.
13. Hindustan Aeronautics Ltd., Hyderabad; Andhra Pradesh.
14. Hindustan Shipyard, Vishakapatnam, Andhra Pradesh.
15. Hindustan Machine Tools Ltd., Hyderabad; Andhra Pradesh.
16. S.B.I., Madras, Tamil Nadu.
17. S.B.I., Andhra Pradesh.
18. F.A.C.T., Kerala.
19. L.I.C., Andhra Pradesh.

State	Projects completed during the half year ending														Projects in pro- gress as on March 70.
	March 64	Sept 64	March 65	Sept 65	March 66	Sept 66	March 67	Sept 67	March 68	Sept 68	March 69	Sept 69	March 70	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Andhra Pradesh	7	-	3	3	7	26	6	6	1	4	1	22	-	86	42
Kerala	1	3	1	4	7	3	11	12	3	-	2	1	2	50	5
Mysore	-	1	2	2	9	-	6	3	4	2	2	2	2	35	39
Tamil Nadu	6	4	10	28	21	16	4	9	14	9	2	5	2	130	17
Total	14	8	16	37	44	45	27	30	22	15	7	30	6	301	103

Type of building	Projects completed during half year ending														Projects in progress as on March, 1970.	
	March : 64	Sept : 64	March : 65	Sept : 65	March : 66	Sept : 66	March : 67	Sept : 67	March : 68	Sept : 68	March : 69	Sept : 69	March : 70	Total		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Residential																
(i) Family	8	2	8	9	12	8	7	5	4	-	-	6	-	69	20	
(ii) Non Family	3	-	-	2	1	2	1	5	-	1	1	3	-	19	5	
Industrial	2	4	3	13	12	16	6	6	4	5	1	10	4	87	30	
Commercial	1	1	4	6	11	6	7	9	10	6	4	8	1	74	35	
Institutional	-	-	-	5	2	10	2	2	2	-	1	1	1	26	5	
Other building	-	1	1	2	6	3	4	3	2	3	-	1	-	26	8	
Total	14	8	16	37	44	45	27	30	22	15	7	30	6	301	103	

Annex-6:- Number of Projects by states and type of building.

State	Type of building													
	Residential				Industrial	Commercial	Institu- tional	Other Building	Total					
	Family	Non-family												
	comp- leted	in pro- gress	comp- leted	in prog- ress	Comp- leted	in pro- gress	comp- leted	in prog- ress	Comp- leted	in prog- ress	Comp- leted	in prog- ress	Comp- leted	in prog- ress
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andhra Pradesh	25	14	7	2	29	9	15	14	2	1	8	2	86	42
Kerala	13	-	3	-	13	3	14	2	4	-	3	-	50	5
Mysore	4	6	2	2	15	17	8	10	4	4	2	-	35	36
Tamil Nadu	27	-	7	1	30	1	37	9	16	-	13	6	120	17
Total	69	20	19	5	87	30	74	35	26	5	26	8	301	103



Annex 7:- Percentage distribution of completed projects  
by value of work done and type of building

Type of building	Value of work done (in lakhs) Rs.									Total
	0.20 0.50	0.50 1.00	1.00 2.00	2.00 3.00	3.00 4.00	4.00 5.00	5.00 10.00	10.00 and above	(9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
<b>Residential</b>										
(i) Family	2.9	10.2	23.2	17.4	13.0	5.8	14.5	13.0	100.0	
(ii) Non-family	21.0	15.8	21.0	15.8	5.3	15.8	5.3	-	100.0	
<b>Industrial</b>										
Industrial	20.5	14.8	17.0	2.3	1.0	4.5	14.8	25.0	100.0	
<b>Commercial</b>										
Commercial	21.6	17.6	12.2	8.1	9.4	2.7	17.6	10.8	100.0	
<b>Institutional</b>										
Institutional	54.2	25.0	8.3	8.3	-	4.2	-	-	100.0	
<b>Other building</b>										
Other building	46.2	15.4	19.2	3.8	7.8	-	3.8	3.8	100.0	
<b>Total</b>	<b>21.7</b>	<b>15.3</b>	<b>17.0</b>	<b>8.7</b>	<b>6.7</b>	<b>4.7</b>	<b>12.7</b>	<b>13.2</b>	<b>100.0</b>	

Period of Start	Projects completed during the half year ended														Total
	March 64	Sept. 64	March 65	Sept. 65	March 66	Sept. 66	March 67	Sept. 67	March 68	Sept. 68	March 69	Sept. 69	March 70		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
Before Oct. 63	9	6	3	9	10	6	-	2	-	-	-	-	-	45	
Oct 63 - Sept 64	5	2	12	16	10	10	3	-	2	-	-	2	-	62	
Oct 64 - Sept 65	-	-	1	12	21	16	8	4	2	1	-	3	-	68	
Oct. 65 - Sept 66	-	-	-	-	3	13	12	8	5	1	1	8	-	51	
Oct 66 - Sept 67	-	-	-	-	-	-	4	16	13	6	5	8	1	53	
Oct 67 - Sept 68	-	-	-	-	-	-	-	-	-	7	1	3	1	12	
Oct 68 - Sept 69	-	-	-	-	-	-	-	-	-	-	-	6	4	10	
Oct 69 - March 70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>14</b>	<b>8</b>	<b>16</b>	<b>37</b>	<b>44</b>	<b>45</b>	<b>27</b>	<b>30</b>	<b>22</b>	<b>15</b>	<b>7</b>	<b>35</b>	<b>6</b>	<b>301</b>	

Annex 8 Distribution of completed projects by value of work done and duration of completion (months).

Time taken for completion (months)	Value of work done (Rs. lakhs)									Total
	0.20 to 0.50	0.50 to 1.00	1.00 to 2.00	2.00 to 3.00	3.00 to 4.00	4.00 to 5.00	5.00 to 10.00	10.00 and above		
1	2	3	4	5	6	7	8	9	10	
Less than 6	29	13	6	1	-	1	-	-	-	50
6-12	20	18	17	3	7	2	6	3		76
12-18	5	4	11	12	7	4	11	5		59
18-24	5	3	8	4	2	1	5	5		33
24-30	22	2	5	2	3	2	5	11		32
30 and above	4	6	4	4	1	4	11	17		58
Total	65	46	51	26	20	14	38	41		301

and completed during half-year period (cont. Table)

Type of building	Value of work done during half year ending														Total	in percentage
	March 64	Sept 64	March 65	Sept 65	March 66	Sept 66	March 67	Sept 67	March 68	Sept 68	March 69	Sept 69	March 70			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
Residential																
(i) Family	15.38	11.31	68.98	49.62	51.35	66.62	42.84	29.93	47.52	12.09	17.67	20.85	6.70	448.86	20.8	
(ii) Non-family	4.73	0.53	9.26	2.63	5.88	1.42	1.83	3.46	4.19	3.02	1.15	1.09	0.33	39.52	1.9	
Industrial	47.73	85.41	173.89	154.50	183.28	114.12	84.55	37.98	100.67	43.74	110.85	16.81	13.52	1,67.05	55.0	
Commercial	26.14	34.87	36.75	30.75	30.84	18.03	40.63	40.36	43.03	30.01	30.88	30.93	0.09	393.37	18.5	
Institutional	0.00	0.47	0.16	4.15	5.00	9.07	1.70	4.01	2.85	1.11	0.42	0.68	1.05	30.67	1.4	
Other Building	1.33	6.18	9.82	12.18	7.82	2.35	1.25	2.02	2.34	2.42	1.28	0.65	0.30	49.89	2.4	
<b>Total</b>	<b>95.31</b>	<b>138.77</b>	<b>298.86</b>	<b>253.78</b>	<b>281.17</b>	<b>211.61</b>	<b>172.80</b>	<b>117.76</b>	<b>200.60</b>	<b>92.75</b>	<b>162.25</b>	<b>71.01</b>	<b>23.99</b>	<b>2123.36</b>	<b>100.</b>	
(In percentage)	4.5	6.5	14.1	12.0	13.4	10.0	8.1	5.5	9.4	4.4	7.7	3.34	1.1	100.0		

State & type of construction	Period	Value of work done during half-year ending							
		March 64	Sept 64	March 65	Sept 65	March 66	Sept 66	March 67	Sept 67
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Andhra Pradesh	Res.	8.93	2.46	10.30	6.87	16.45	17.11	23.03	14.93
	Non-Res.	21.08	41.58	121.04	58.62	106.94	96.01	25.18	11.60
	Total	30.01	44.04	131.33	65.49	123.39	113.12	48.20	26.53
2. Kerala	Res.	-	-	7.62	16.67	16.48	31.32	6.76	1.45
	Non-Res.	39.52	57.11	32.31	15.14	10.32	4.87	16.74	11.37
	Total	39.52	57.11	39.94	31.81	26.80	36.19	23.50	13.32
3. Mysore	Res.	-	-	-	3.00	5.60	0.47	2.87	0.11
	Non-Res.	1.42	7.62	3.71	22.36	25.83	10.11	7.34	8.12
	Total	1.42	7.62	3.71	25.37	31.43	10.58	10.21	8.23
4. Tamil Nadu	Res.	11.18	9.38	60.32	25.71	18.70	19.14	12.02	16.58
	Non-Res.	13.19	20.62	63.57	105.41	83.84	32.57	78.87	52.78
	Total	24.37	30.00	123.89	131.11	102.55	51.71	90.89	69.60
5. Total	Res.	20.11	11.84	78.24	52.25	57.23	68.04	44.68	33.40
	Non-Res.	75.20	126.93	220.63	201.53	226.94	143.57	128.12	84.38
	Total	95.31	138.77	298.87	253.78	284.17	211.61	172.80	117.76

Note: The variations noticed in the column and row totals are due to rounding off the figures.

	March 68 (10)	Sept 68 (11)	March 69 (12)	Sept 69 (13)	March 70 (14)	Total (15)
1.	28.81 17.11 45.92	11.51 14.19 25.70	12.30 26.49 38.79	9.50 24.08 33.58	2.50 2.45 4.95	164.69 566.37 731.06
2.	- 3.69 3.69	- 2.79 2.79	- 5.42 5.42	- 3.82 3.82	- 4.35 4.35	80.30 207.96 288.26
3.	1.36 10.79 12.16	1.12 12.65 13.78	6.28 14.79 21.07	12.20 6.56 18.77	6.53 7.26 13.79	39.59 138.57 178.16
4.	21.54 117.31 138.84	2.47 47.71 50.18	0.23 96.73 96.96	0.23 14.60 14.83	- 0.90 0.90	197.81 728.09 925.89
5.	51.71 148.90 200.62	15.10 77.34 92.44	18.81 143.43 162.25	21.93 49.07 71.00	9.03 14.96 23.99	432.38 1640.99 2123.37

Type of building	Floor area of projects completed during														Total	Per cent
	March 64	Sept 64	March 65	Sept 65	March 66	Sept 66	March 67	Sept 67	March 68	Sept 68	March 69	Sept 69	March 70			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Residential (i) Family	315.1	18.3	76.5	213.5	219.5	200.1	73.2	20.8	324.0	-	-	228.3	-	1689.3		
(ii) Non-family	46.3	-	-	17.6	20.9	31.2	8.8	13.4	-	12.3	3.0	22.9	-	176.4		
Industrial	6.2	53.1	12.4	415.5	335.8	342.5	118.7	492.6	48.1	110.5	2.6	457.0	43.7	5558.7		
Commercial	4.6	10.5	64.9	165.1	123.1	139.6	37.3	77.3	161.4	59.3	54.2	98.7	1.1	997.1		
Institutional	-	-	-	25.7	10.7	26.6	20.1	4.3	39.1	-	3.4	32.3	1.5	163.7		
Other building	-	10.5	0.3	19.7	115.5	7.5	11.0	5.9	6.4	16.2	-	2.3	-	95.3		
Total	372.2	92.4	154.1	857.1	825.5	3867.5	269.1	514.3	579.0	198.3	63.2	841.5	46.	8780.5		
(In percentage.)	4.2	1.1	1.8	9.8	9.4	44.0	3.1	7.0	6.6	2.2	0.7	9.6	0.5	100.0		

Annex -14 :- Cost /100 Sq. Ft. of floor area by state and type of buildings.

State	Cost (Rs.)/ 100 Sq. ft. of floor area by type of building					
	Residential family	Non-family	Industrial	Commercial	Industrial <i>Institutional</i>	Other building
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Anchra Pradesh	2232	2141	2383	2956	2618	2495
Kerala	3150	1250	2728	3371	2830	2465
Mysore	2334	2278	2076	4058	1676	2628
Tamil Nadu	2323	3652	4450	2963	1654	3193
All	2416	2430	3141	3103	2676	2708



State	Floor area of projects completed during the half year ending.								
	March 64	Sept 64	March 65	Sept 65	March 66	Sept 66	March 67	Sept 67	
Type of construction	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Andhra Pradesh</b>									
Residential	152.3	-	18.7	-	21.0	137.9	42.7	7.4	
Non-Residential	-	-	-	58.7	33.3	352.3	89.3	11.3	
Total	152.3	-	18.7	58.7	54.3	3662.2	132.0	18.7	
<b>Kerala</b>									
Residential	-	-	-	-	140.6	78.5	23.4	19.5	
Non-Residential	4.6	50.0	7.7	309.7	151.0	6.8	19.2	55.6	
Total	4.6	50.0	7.7	309.7	291.6	85.3	42.6	75.1	
<b>Mysore</b>									
Residential	-	-	-	-	33.8	-	15.9	-	
Non-Residential	-	3.2	12.5	8.4	90.3	-	32.2	11.6	
Total	-	3.2	12.5	8.4	124.1	-	48.1	11.6	
<b>Tamil Nadu</b>									
Residential	209.1	18.3	57.8	231.1	45.0	45.0	46.4	7.3	
Non-Residential	6.2	21.0	57.4	249.2	310.5	105.0	46.4	501.6	
Total	215.3	39.2	115.2	480.3	355.5	120.0	46.4	508.9	
Total Residential	361.4	18.3	76.5	231.1	240.4	231.3	82.0	34.2	
Non residential	10.8	74.1	77.6	626.0	585.1	3626.2	187.1	580.1	
Total	372.2	92.4	154.1	857.1	825.5	3867.5	269.1	614.3	

	March 68	Sept 68	March 69	Sept 69	March 70	Total
	(10)	(11)	(12)	(13)	(14)	(15)
1.	15.3	-	-	250.5	-	645.8
	-	21.1	10.4	306.4	-	4054.8
	15.3	21.1	10.4	556.9	-	4700.5
2.	-	-	-	-	-	262.0
	15.7	-	6.0	5.1	30.2	661.6
	15.7	-	6.0	5.1	30.2	923.7
3.	-	-	3.0	-	-	52.7
	82.9	5.8	8.4	140.6	10.2	406.1
	82.9	5.8	11.4	140.6	10.2	458.8
4	308.7	12.3	-	0.8	-	905.1
	156.4	159.1	35.5	138.2	5.9	1792.4
	465.1	171.4	35.5	139.0	5.9	2697.6
5.	224.0	12.3	3.0	251.3	-	1865.77
	255.0	186.0	60.3	590.3	46.3	6914.9
	579.0	198.3	63.3	841.6	46.3	8780.6

Note (i) The variations noticed in the column and row totals are due to rounding off the figures.

**Annex 15:- Number of new building projects in progress as on  
March 1970 by State/type of construction, floor  
area, estimated cost and value of work done**

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<u>State</u> <u>Type of construction</u>	<u>No. of</u> <u>proj-</u> <u>ects</u>	<u>Floor</u> <u>area</u> <u>(Sq.ft.</u> <u>in thou-</u> <u>sand)</u>	<u>Estima-</u> <u>ted cost</u> <u>(Rs. in</u> <u>lakhs)</u>	<u>Value of</u> <u>work done</u> <u>(Rs. in</u> <u>lakhs)</u>	<u>% age of</u> <u>value of</u> <u>work done</u> <u>to estima-</u> <u>ted cost</u>
<u>Uttar Pradesh</u>					
Residential Family	14	400.0	80.00	38.21	48
Non-family	2	6.7	1.57	0.62	39
Industrial	9	338.9	84.40	70.57	84
Commercial	14	146.3	67.88	29.13	43
Institutional	1	7.5	2.50	1.02	41
Other buildings	2	5.7	1.15	0.77	67
<b>Total</b>	<b>42</b>	<b>905.0</b>	<b>237.50</b>	<b>140.31</b>	<b>59</b>
<u>Kerala</u>					
Residential Family	-	-	-	-	-
Non-family	-	-	-	-	-
Industrial	3	9.9	2.76	2.57	93
Commercial	2	16.7	67.24	17.61	26
Institutional	-	-	-	-	-
Other building	-	-	-	-	-
<b>Total</b>	<b>5</b>	<b>26.6</b>	<b>70.00</b>	<b>20.18</b>	<b>29</b>
<u>Assam</u>					
Residential Family	6	156.2	42.87	25.73	60
Non-family	2	6.4	1.49	1.48	100
Industrial	17	407.4	31.70	23.90	75
Commercial	10	97.4	67.79	29.57	44
Institutional	4	15.2	3.65	3.27	90
Other building	-	-	-	-	-
<b>Total</b>	<b>39</b>	<b>682.6</b>	<b>147.50</b>	<b>83.96</b>	<b>57</b>
<u>Orissa</u>					
Residential Family	-	-	-	-	-
Non-family	1	13.1	5.65	2.66	47
Industrial	1	117.4	94.12	94.10	100
Commercial	9	86.3	39.46	22.71	57
Institutional	-	-	-	-	-
Other building	6	4.3	5.01	1.00	20
<b>Total</b>	<b>17</b>	<b>221.1</b>	<b>142.24</b>	<b>121.47</b>	<b>85</b>
<u>Total for all 4 states</u>					
Residential Family	20	556.1	122.87	63.93	52
Non-family	5	26.2	8.70	4.76	54
Industrial	30	873.6	212.99	191.14	90
Commercial	35	346.7	242.36	99.02	41
Institutional	5	22.7	6.15	4.29	70
Other buildings	8	10.0	4.15	2.66	64
<b>Total</b>	<b>103</b>	<b>1835.5</b>	<b>597.23</b>	<b>365.82</b>	<b>61</b>

Annex 16 :- Number of dwelling units in residential family buildings completed by State.

State	No. of Dwelling Units				Total *
	1 room unit	2 room unit	3 room unit	4 or more room unit	
(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	48	356	420	198	1210
Kerala	-	356	44	51	451
Mysore	-	16	8	4	48
Tamil Nadu	728	796	494	82	2100
Total	776	1524	966	335	3609

\* The totals do not add up since in the case of some projects/ schemes up of Type of units are not reported.

State	One room unit		Two room unit		Three room unit		Four room unit /or more	
	No.	Av. cost	No.	Av. cost	No.	Av. cost	No.	av. cost.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Andhra Pradesh	48	5029	356	6698	420	8712	198	19942
Kerala	-	-	336	8684	4	18676	9	47664
Mysore	-	-	16	5950	8	25883	4	27974
Tamil Nadu	728	4528	400	7539	120	9763	62	19726
All	776	4571	1108	7593	552	9268	273	20917

State	One-room unit		Two room unit		Three room unit		Four or more room unit	
	Av. cost (Rs.)	Av. area (sq.ft.)	Av. cost (Rs.)	Av. area (sq.ft.)	Av. cost (Rs.)	Av. area (sq.ft.)	Av. cost (Rs.)	Av. area (sq.ft.)
1	2	3	4	5	6	7	8	9
Andhra Pradesh	1868	280	2206	304	2021	431	2374	840
Kerala	-	-	1978	439	3149	593	3272	1457
Mysore	-	-	1334	446	2454	1055	1901	1445
Tamil Nadu	2401	187	1983	280	2526	386	2332	646

RESEARCH AND DEVELOPMENT TOWARDS REDUCTION OF  
BUILDING COST

by

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....

Housing is one of the most complicated problems, the solution of which demands a far better working method than hitherto. As house building is concerned with social, economic, financial and technological matters, a rational approach suited to our conditions has to be evolved to find a satisfactory, economical and speedier solution for building large scale housing at low cost. The crux of the problem however, is the substantial reduction in the cost of construction while building houses of satisfactory quality at a very fast rate. To achieve this a scheme called Development Cycle has been evolved by Bouwcentrum, Rotterdam. (3 Figures displayed)

It aims to provide a better working method for achieving progressively, in successive stages, optimum quality of dwelling at lower cost. The scheme envisages very careful preparation of large-scale construction for limited types of houses and an intensive programme of house building research and systematic application of knowledge in actual practice. The Development Cycle Scheme has been studied by NBO and a Team of Central PWD has also evolved a housing project according to the principles of Development Cycle in consultation with Bouwcentrum in which economy upto 20 per cent in building cost has been indicated. ....

Development Scheme:- The Development Cycle comprises of systematic development of the dwellings with the aid of investigation into needs, market research and analysis of technical and economic possibilities of construction, execution and use. Together with the building of prototype, a dwelling type is evolved which lends itself to large scale reproduction. During and after the finishing stage, analysis is made and the experience obtained in the construction and the use of the dwelling is fed back to the programming stage where upon a new cycle may be started.

fundamentals of the scheme are:- teamwork.

(i) Team Work:- The team work ensures that scientific and technical knowledge of the highest order is brought to bear on the project and practical necessities are properly accounted for in taking firm decisions.

(ii) Continuity:- To realise the advantages that accrue from mass production, continuity of house building activities on a long-term basis have to be ensured. Advance planning and programming has to be achieved and coordinated with the practical aspects of the project.

(iii) Integration of Design and Production:- Integration of results of research at different stages such as programming, designing and execution is of utmost importance. This is in order to translate the results of research into practical application as a matter of practice.

(iv) Feed-Back:- Feed-back of experience is of great importance at different stages in the scheme of development of housing to enable achievement of satisfactory dwelling types, ensuring optimum quality at lower cost.

The Development Cycle stages:- The scheme of Development Cycle for obtaining optimum quality of dwelling at low cost includes the following different stages of the production:-

(i) Programme:-

(a) Objectives:- In evaluating the objectives consideration should be given to the choice of the type of the dwelling in the market sector, as well as the determination of the consequent size of the dwelling and price level.

(ii) Programme of Requirements:- Starting from the objective the programme of requirements has then to be drawn up. It consists of general requirements and based on which all functional and aesthetics aspects of the dwelling to be laid down. Moreover, the technical economical possibilities should be taken into consideration to account for the practical realities.

(ii) Design:-

The programme of requirements forms the starting point of the design which can be classified into the following two stages:-

(a) Functional:- By means of a rough plan all functional aspects of the products are laid down in a special way in conformity with the general and specific requirements of the programme. However, it should lend itself to principal to a technical elaboration and efficient production. The full-scale model of the rough design without yet giving attention to the technical



elaboration is prepared. The minimum requirements of the design are finally supplemented with the experience which have been gained through the functional model.

- (b) Technical:- The functional design thus supplemented is consequently elaborated technically, by which all technical aspects of the product are laid down. The selection from the various technical aspects should be made on the basis of cost, as well as the possibilities for an efficient production.

The technically elaborated design should be compared with the programme of requirements. Also in this case the faithful appreciation through a full-scale model, but this time constructed by the actual material, is essential. The programme of requirements in the design are finally supplemented with the experiences gained through the technical model.

(iii) Production:- The design which thus originates, is taken into production, in which again two successive stages can be distinguished:-

(a) Preparation:- The production organisation is drawn up, the tools are developed and a training programme for the labour is approved. The efficiency of the decision is tested through the experimental series. The experiences gained through the experimental series are supplemented in the design and possibly the programme of requirements.

(b) Serial production:- The final design is ultimately produced in series. The experiences hereby gained are fed-back to the design.

(iv) Services:- The dwellings have been produced for the sector of the market on which the programme has been based. To attain the optimum quality, it is therefore, necessary to ensure that the product reaches the hands of the users for whom it has been intended. After-sale, service should start by giving the user adequate instructions regarding the way in which to use the dwellings. Further more, the correct functioning of the dwelling during its life, should be ensured by rendering service. Also the experiences of the users should be systematically investigated and fed-back to the stages of design and production. The feed-back of the experiences of the users to the programme stage means that the total cycle starts afresh. That more knowledge and experiences incorporated through each cycle, an optimum quality given a certain cost, can be obtained.

Implementation:- The development cycle approach could profitably be made use of in increasing the productivity of traditional as well as industrialised house-building methods. Therefore, while undertaking large scale projects of low cost housing the public housing authorities should apply the fundamentals of the development cycle scheme namely, team work, continuity, integration of design and production and ensure feed-back of experiences.

For obtaining optimum quality of dwellings at low cost, the development cycle approach which includes practical studies through functional full-scale model, proto-type construction model, experimental construction series and mass housing production project, should be implemented. For this Development Groups should be constituted in agencies engaged in public housing projects.

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COST REDUCTION THROUGH  
INTRODUCTION OF  
NEW BUILDING MATERIALS

By

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\*\*\*

A B S T R A C T

Introduction of new building materials like machine made bricks, hollow clay blocks, cellular concrete, light weight aggregates, sandlime bricks, particle boards, asphaltic corrugated sheets, etc. in building construction enable new construction techniques by which the cost of construction could be reduced. The introduction of some of these materials will also enable utilisation of industrial wastes such as flyash, blast furnace slag, saw mill waste and asphalt etc. The Plastic has also entered into building material field. The use of plastic pipes for cold water plumbing is becoming popular. This Paper deals with the new building materials industries established in the country and which are likely to come up in future.

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O.O Enlarged programme of construction as envisaged in the Fourth Five Year Plan has brought to light the critical supply position of various important building materials. The shortage of certain building materials may be a limiting factor in the execution of the programme of construction in this Plan as well as the future plans. The rising cost of building materials as well as labour have pushed up the cost of construction and there is an urgent need for introduction of new techniques of construction and new building materials in the construction industry, the application of which would reduce the cost of construction. It is, therefore, necessary that

P.T.O.

traditional building materials industry should be put on modern and scientific lines to produce quality materials in large quantities and also establish industries to produce new building materials by the use of which the supply of conventional materials could be extended.

0.1 Large tonnage of industrial wastes are available in the country, the disposal of which has become a serious problem and also entails heavy expenditure. Industrial wastes such as flyash from thermal power stations, blast furnace slag from steel plants, sawmill waste, asphalt from refineries etc. have been employed for the manufacture of new building materials in the industrially advanced countries. N.B.O. being aware of this situation had prepared a number of project proposals for the establishment of industries utilising the industrial wastes and widely publicised. Due to the efforts of the N.B.O. number of industries producing new building materials have been established in the country and number of projects are under various stages of planning and implementation. This Paper deals with some of these industries, properties of the building materials produced by them and the economy that could be achieved by their use.

#### 1.0 Mechanised Brick Plants:

1.1 Modern construction requires a variety of structural clay products such as hollow clay blocks, perforated bricks, heavy duty bricks, paving bricks, facing bricks, flooring tiles etc. in addition to the common bricks. Most of these products cannot be manufactured by conventional means. Therefore, mechanisation has to be resorted to. At present 20-25 thousand million bricks are being produced throughout the country by 10,000 small units. It is estimated that there would be a short-fall of 10,000 million bricks per year to execute the construction programme in the Fourth Five Year Plan. Establishment of mechanised brick plants in the country, to a certain extent, will overcome the shortfall. Six mechanised brick plants- two at Madras, one each at Calcutta, Delhi, Srinagar and Naharkatia (Assam) of total capacity 150 million bricks per year have already been established in the country. Three more- one at Bangalore and two at Madras will be installed during the next year. About nine proposals for the establishment of mechanised brick plants in various States are in the planning stage. So far all the plants established in the country have mainly been producing high strength bricks of 150-250 kg/sq.cm as against the strength of 30-70 kg/sq.cm obtained for the hand moulded

bricks. The sale price of the mechanised bricks ranges from Rs 80-120/1000 Nos. as against Rs 55-110 for hand moulded bricks. The machine made bricks apparently cost more but when their better properties such as strength, low water absorption, accuracy in dimensions, good faces, are utilised, economy could be achieved in building construction. In Delhi and Calcutta using their high strength characteristics, 4 storeyed and 5 storeyed residential quarters with 9" thick brick walls are being constructed. It has been estimated that by the use of these bricks, over all saving of about 8-10 per cent could be achieved in these buildings. The machine made bricks have also been used as facing bricks as they pass the I.S.I. specifications thereby avoiding the external rendering of the walls and regular maintenance.

The Industrially advanced countries where the bricks are produced only by mechanised means, the factories produce over 70 per cent perforated bricks and the rest heavy duty bricks. The solid bricks are rarely manufactured by ordinary building construction as it is more easy to produce perforated bricks and there is saving in the material as well as coal required for burning. The perforated bricks have more or less the same strength as solid bricks and when used in buildings, they give much better thermal comfort. Hence, production of perforated bricks by the mechanised brick plants established in the country should be encouraged. It has also been found that by the use of bricks produced by mechanised means, saving of mortar to the extent of 20 per cent could be had because of their good surfaces.

#### 1.2 Hollow Clay Blocks:

Hollow clay blocks have been produced by the Tile Manufacturers in the South as well as by some of the mechanised brick plants. These are being used for partition walls, ceiling blocks as well as reinforced brick construction for roofing and floors in the multi-storeyed construction where substantial economy is reported to have been achieved.

## 2.0 Sandlime bricks:

2.1 At locations where good quality soils are not available for the manufacture of bricks and where sand and lime of the requisite specifications are available in large quantities, sandlime brick plants could be established. The sandlime bricks have excellent structural properties and can be manufactured in number of colours having strengths from 150 to 400 kg/sq.cm. These bricks need not require any burning. At present one plant in Kerala is producing sandlime bricks of dimensions 19 x 9 x 9 cms and strength over 150 kg/sq.cm and are sold at about Rs 70/1000 Nos. N.B.O. has prepared/a project proposal and widely circulated. As a result, three proposals for the establishment of sandlime bricks in Madhya Pradesh, Maharashtra & Andhra Pradesh are in various stages of planning.

## 3.0 Flyash based Industries: / for sandlime bricks

3.1 Pozzolana Cement: About 3 million tonnes of flyash is being produced as waste from the thermal power stations, disposal of which has already become a problem as mentioned earlier. It is expected that by the end of the Fourth Plan, about 8 million tonnes of flyash will be available aggravating the disposal problem. This waste product could be employed usefully as it is pozzolanic in character and could easily replace cement to the extent of 20 per cent in various applications without any appreciable reduction in strength and quality of construction. N.B.O. has prepared project proposals for the establishment of plants to intermix or intergrind flyash with cement or cement clinker for the manufacture of flyash pozzolana cement. This would enable to extend the present capacity of the cement industry. It is expected that the ~~pozzolana~~ pozzolana cement would be cheaper by 10-15 per cent than the ordinary cement and has additional advantages of water tightness and low expansion. Although some of the cement factories in the country are producing pozzolana cement, it is not popular with the construction agencies because it is still considered by them that pozzolana cement is of lower quality than portland cement and is sold at the same price of the portland cement. If the cement factories producing pozzolana cement reduce the price of pozzolana cement and the various advantages and limitations for the use of pozzolana cement are brought out to the construction agencies, this product may gain popularity, which will enable larger utilisation of flyash.

3.1.1 Establishment of inter-grinding cement plant at places near the power plants situated where huge construction activity is envisaged such as Delhi, Kanpur, Calcutta, by transporting clinker from cement factories and inter-grinding the clinker with flyash would enable to promote the use of this product. This proposal would also have several advantages such as saving of cement to the tune of 2.5 to 3 per cent lost in the present system of transporting in gunny bags and the movement of the clinker requires open wagons whereas the cement has to be moved in closed wagons. There are proposals for establishment of such plants at places mentioned above.

### 3.2 Cellular Concrete:

Cellular concrete blocks and panels manufactured from lime and flyash are extensively used in construction in many advanced countries as well as developing countries. Because of light weight, cellular concrete is especially suited to construction of multi-storeyed buildings and its use could effect substantial savings in the cost of construction. At present one Cellular Concrete plant using lime and flyash of capacity 1,38,000 cu.ms (70 million bricks equivalent) is being established by Tamil Nadu Housing Board at Ennore (Madras) which will go into production by the middle of 1971. This factory will produce mainly blocks of 59 x 19 x 19 cms having density of 700 kgs/cum and compressive strength of 50-75 kg/sq.m. Because of their light weight, the size of the blocks which can be handled by a mason without difficulty is bigger, thereby saving of 50 per cent in labour is achieved and only 15-20 per cent mortar is required as compared to brick construction. Another proposal to establish plant at Bandel (West Bengal) is under consideration. In addition to these two proposals, N.B.O. is working out techno economic feasibility reports for establishing such plants in Maharashtra, U.P. and Madhya Pradesh. It has been estimated that by the use of these blocks in 4 storeyed buildings at Calcutta and Madras, substantial economy-10-15 per cent could be achieved as compared to the prevailing brick construction.

### 4.0 Light Weight Aggregates:

4.1 In the areas especially the Indo-Gangetic plains where stone is not easily available and has to be brought from long distances, there is a great scope for establishment of plants for the manufacture of bloated

light weight aggregates. This material has been used in many advanced countries like U.S.A. & U.K for more than 50 years. It is estimated that 20 per cent saving in steel could be achieved by the use of this material in multi-storeyed buildings. Similarly, light weight aggregates could be produced from blast furnace slag. M.B.O. has prepared project proposals for the manufacture of light weight aggregates from both these materials. The silt deposits in Paita Water Works (Calcutta) and in some places in U.P. have been tested and found suitable for the manufacture of light weight aggregates.

#### 5.0 Secondary species of timber.

5.1 Acute shortage of good quality timber is felt and their prices are soaring day by day. The primary species of timber generally used in construction take 50-60 years before it is felled. It is, therefore, imperative that recourse should be taken to employ secondary species of timber, which are available in large quantities in the country. However, such secondary species of timber essentially require seasoning and preservation before they are used in construction. M.B.O. has brought out a publication on the secondary species of timber, which gives detailed information about the type of various secondary species of timber that can be used in building construction.

#### 6.0 Particle Boards:

6.1 In most of the industrially advanced countries for all the furnitures and fittings particle board is used instead of sawn timber. Only scrub timber and waste timber from the felled trees which cannot be used for any other purposes but fuel, is employed. It is generally known that when a tree is felled in India, approximately 40% of its timber is won and marketed, but in the manufacture of particle board upto 80 per cent of the available timber from a felled tree could be utilised. In India, five plants for the manufacture of particle boards have been established. M.F.O. has brought out a publication giving the various properties and economics of the use of this product.

#### 7.0 Asphaltic corrugated sheets:

7.1 Roofing is considered as one of the main problems of housing and building. For the low cost housing, especially in areas of heavy rain-fall, where sloping roof is popular, asbestos cement sheets, galvanised iron sheets and to a certain extent, clay tiles are used.



It is known that for the manufacture of asbestos roofing sheets, long fibre asbestos is imported to the tune of Rs 60 million every year causing heavy drain on the country's foreign exchange. Moreover, asbestos sheets are brittle and get damaged in transit especially in hilly regions where the roads are not good. G.I. sheets are produced in the country but are in short supply. Corrugated roofing sheets from asphalt and paper felt are manufactured and used in Brazil, France and Africa. These sheets have proved to be a satisfactory roofing material in areas where the temperature in shade does not go beyond 108°F. N.B.O. has prepared a project proposal for the manufacture of these sheets. An Asphaltic corrugated sheets plant has gone into production at Madras and the product is sold at Rs 45 Paise only per sq.ft. as against Rs 125 Paise per sq.ft. for the asbestos sheets. These roofing sheets are light weight and have better thermal comfort, water proof, not attacked by fungi or vermin and there is little br skage during transit.

## 8.0 Plastics as building materials:

8.1 25 per cent of the world production of plastics goes to the building industry. In India at present plastic pipes for cold water plumbing have recently entered into the market. These pipes are cheaper, corrosion resistant and light weight. At present, low density polythene and high density polythene and P.V.C. pipes are manufactured in the country. N.B.O. has brought out a publication about the use of these pipes, and their limitations. The plastic industry has also entered into the building hardware field. Door handles, window stays, curtain rails are being manufactured in various colours and are cheaper than the brass or steel fittings.

8.2 Glass reinforced plastic bath tubs have almost replaced the traditional ceramic tubs in Europe. These water tubs are already produced in the country at much cheaper rates. Glass fibre reinforced polyester resins (GRP) is also used in formwork which have the advantage of being light weight and gives better results. These frame-work could be used repeatedly for a number of operations. There is a wide scope for development and introduction of plastic system for flushing and cold water storage and sandwich panel construction using expanded polystyrene and rigid polyurethane foam in the country.

Colloquium on  
Housing and Building Activity in the Southern Region of India  
Bangalore 18-19 December 1970

Organised by  
The National Buildings Organisation  
in Collaboration with  
The Mysore Housing Board, Bangalore

**Session 3**

# **Investment in Housing and Relevant Fiscal and Monetary Policies**



**Government of India**

**National Buildings Organisation**



**and**

**UN Regional Housing Centre Ecafe**

**Nirman Bhawan New Delhi**

19th December, 1970 : 10.00 A.M. to 1.00 P.M.

Technical Session 3: Investment in housing and relevant  
monetary and fiscal policies.

Papers for discussion

1. Part played by LIC in creating real estate in urban area.

Dr. Mohd. Mohesin,  
Reader Deptt. of Commerce,  
Aligarh Muslim University,  
Aligarh.

2. Role of Life Insurance Corporation of India in urban housing with special reference to Southern Region of India.

Shri S. Rengarajan,  
Chief (Housing & Mortgage Division),  
Life Insurance Corporation of India,  
Bombay.

3. Role played by Tamil Nadu Housing Board in activating housing and building activity in Tamil Nadu (already included in technical session 2).

Shri T.V. Vasudevan,  
Chairman,  
Tamil Nadu Housing Board,  
Madras.

4. Role played by nationalized commercial banks in activating housing and building activity.

Department of Banking,  
Ministry of Finance,  
New Delhi.

5. Incidence of taxes imposed by local bodies on building materials.

Shri V.S. Subbiah,  
Secretary,  
Deptt. of Labour,  
Govt. of Tamil Nadu, Madras.

6. Rates, taxes and return on investment from housing in urban areas.

Shri M.S.L. Rao,  
Superintending Engineer,  
Central Board of Direct Taxes,  
New Delhi.

7. Working of rent control acts in urban areas of Southern Region of India.

Prof.V. Shanmugasundaram,  
Head of the Deptt. of Economics,  
University of Madras,  
Madras.

8. Housing and building activity as a booster for national and regional economy.

Dr.S.R.K. Rao,  
Deputy Director,  
Deptt. of Economics,  
Reserve Bank of India,  
Bombay.

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Shri M. K. Venkatesh,  
Secretary,  
Deptt. of Food, Civil Supplies & Labour,  
Govt. of Mysore,  
Vidhan Soudha,  
Bangalore.

Dr. Mohd. Mohsin,  
Reader,  
Faculty of Commerce,  
Aligarh Muslim University,  
Aligarh

PART PLAYED BY L.I.C. IN CREATING  
REAL ESTATE IN URBAN AREA

by

Mohammad Mohsin,  
Faculty of Commerce,  
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Aligarh

Introduction: The tremendous growth of life insurance savings, has made LIC an important supplier of 'loanable funds' in the economy. During the period 1956 to 1970, LIC has accumulated enormous savings and has provided them for the industrial and agricultural development both in the private sector and public sector. The total book value of its investments as on March 31, 1970, amounted to Rs.1528.6 crores. Of this 73.6 per cent was invested in the public sector 9.5 in the cooperative sector, 0.5 per cent in the joint sector and 16.5 per cent in the private sector.

LIC has not confined its activities in these two categories but has also extended finances towards the creation of real estate in India. During the same period 1956-1970, LIC added to its holdings of mortgage business and industrial properties and apartment buildings. Its funds have been employed to build office buildings, warehouse, shopping centres and many other commercial and industrial facilities which have meant so much to the growth of the country.

Perhaps most interesting is the enormous contribution which life insurance savings have made to better housing,

which certainly improves national productive capacity as well as living standards of the people. The Corporation's total contribution to housing development in India by way of loans to State Governments and Cooperative housing finance societies and loans under other schemes and its own building construction plans upto March 31, 1970 came to Rs.527 crores.

Since LIC outrank any other institutional holder of investment and savings funds, it is natural to expect it to occupy a prominent position in the financing of real estate. At the same time, its size and concentration favours larger investment units so as to avoid the detail which is involved in the initiation and servicing of loans on smaller properties. It is for this reason that LIC has tended to favour loans on business properties and on larger residential projects.

Apart from mortgage financing, the placement of funds by LIC in investment of an equity nature are made for various other considerations. The most genuine reasons are the following:

- (a) the demand for life insurance and the demand for housing are inter-related;
- (b) suitability of Real Estate to meet the investment requirements of LIC; and
- (c) Socio-economic obligation of LIC and investment in real estate.

(I)

INTER-RELATIONSHIP BETWEEN DEMAND FOR LIFE  
INSURANCE AND DEMAND FOR HOUSING

The growth of life insurance depends upon the growth

of population, income, industrialisation and urbanisation of the country. These are also the factors that create demand for housing.

If a rising population is accompanied by favourable income prospects, the demand for real properties and life insurance tends to be high. But an increase in population will not bring a rise in the demand for real estate, or for life insurance if incomes are falling, unless of course, there should be a sudden shift in the preference of buyers for real estate relative to other goods or services. Thus, the primary factors in real estate and life insurance demand are considered to be incomes and the terms and availability of financing. However, population trends and movements may be clues to real estate demand and demand for life insurance when considered in relation to income trends.

The age distribution of population is an important factor to consider as well as the trend of total population growth. If there are large number of people of marriageable age, as will be true in 1971, demand for life insurance and for residential real estate will tend to be strong- assuming that income conditions are favourable.

Moreover, a population which is growing rapidly due to excess of crude birth rate over crude death rate has an age distribution which is more favourable to life insurance. The decline in infant mortality and increase in the expectancy of life would create dependency at both ends of life and in this way the demand for life insurance would increase.



Similarly, the trend towards more children per family in the post war years undoubtedly stimulated the demand for somewhat larger homes than was the case prior to the war. With a larger number of people in higher age groups and with the expansion of pension funds, both public and private, there may be a growing market for small, efficiently designed homes and apartments for retired persons and couples.

The real estate market is, like the market for life insurance, sensitive to changes in wage levels, employment opportunities, and stability of income. Rental payments, housing cost and premium payments are closely geared to ability to pay. Homes, too, can now be purchased through various mortgage schemes like other consumer goods, and payments like insurance premium are made out of income on a monthly basis.

As incomes increase and expectations of future income become positive, certain secondary factors swell housing demand. One such factor is the tendency of many persons and groups of persons to set up as households on their own rather than continuing to live with other family units, of course.

An important result from changes in incomes expected in the market is the movement of great numbers of households into dwellings units which are more desirable to them. During periods of rising incomes, people tend to seek the new, larger, more expensive homes and apartments.

The movement of households into better, more expensive housing may be called "demand filtering". Households move

up through the distribution of the price brackets of housing.

Likewise, the increased income levels have added to the growth of life insurance both expansively - i.e. more people buying insurance, and intensively - i.e. some people buying additional insurance coverage. The effect of higher incomes on the one hand have enabled people to purchase life insurance coverage who previously were unable to do so while on the other hand those already owned life insurance policies have increased their coverage as their income increased. The former fact is indicated by the increasing number of policies and the latter is explained by the improvement in the average size of policy.

The most important common factor is the industrialisation and urbanisation of the country. Like the demand for houses, the increase in urban population has created more demand for life insurance. In agriculture societies the small or large pieces of land owned by individuals used to serve as the centre of economic security. Under such societies, the saving takes the form of re-investment either in land or in incorporated business. Moreover, in villages joint family system and traditional affiliations of the individuals used to provide social security. But the liquidation of the joint family system and the mobilisation of the population from the farm to the cities has created the need for life insurance. The effect of this factor has been both expansive and intensive.

It will be seen that the same factors that helped the growth of life insurance also generate demand for houses. Demand increase and demand fileration is very much akin to 'expansive' and 'intensive' growth of life insurance. Rising incomes create demand and the same is not only for more houses but also for residences. The same features are reprinted in increase in the number of policies and average size of life insurance policies.

'Housing' and 'Life Insurance' demands are thus inter-related. This can be verified from the following Table-I illustrating direct relationship between urbanisation, income distribution and demand for life insurance. The Table shows that the Western Zone which has the largest urban population (about 26.6 per cent of total population) has relatively low demand for life insurance.

TABLE - I

URBANISED REGIONS AND LIFE INSURANCE

	Urban Population as percentage to total population	Per Capita Income	New Life Business (Rs. Cr.)	New Business sold in (as per cent to total)
NORTHERN ZONE	18.1	410	113.47	78.0
CENTRAL ZONE	13.6	320	114.56	67.8
EASTERN ZONE	11.7	319	166.38	67.6
SOUTHERN ZONE	20.4	366	216.98	61.8
WESTERN ZONE	26.6	428	223.89	83.6

SOURCES: 1. Directorate of Economic Intelligence & Statistics and information (Uttar Pradesh Govt.)-Statistical Diary.

2. L.I.C. ANNUAL REPORT, 1968-

NOTE: Urban Population and per capita income are averages of the States in that region.

Eastern Zone with the exception of West Bengal, comprises of industrially less developed States of Bihar, Orissa and Assam and has relatively smaller proportion of urban population. Therefore, the regional demand for life insurance is also small. Northern Zone comprising the States of Jammu & Kashmir, Haryana, Punjab, Rajasthan and Union Territories of Himachal Pradesh and Delhi is not so industrially advanced. But because of cosmopolitan position of Delhi and also on account of relatively prosperous States of Haryana and Punjab the per capita ~~national~~ income of the people in this region is the largest. However, because of the predominance of agriculture, the demand for life insurance is not so great as in the most industrialised or urbanised areas of the Western and Southern Zone.

Besides having common factors, the growth of life insurance itself depends upon the provision of adequate number of houses in the economy. Scarcity of houses in any country, specially the extent of accommodation available, for middle class, in whose life and savings LIC is specially interested, causes an upward movement in rent. The high rents in turn heavily tax the budget of income-earner, which affects his efficiency, undermines his earning capacity and saving ability. The Delhi Saving Survey, for example, shows that for 80 per cent people in Delhi, saving is conditional, and that nearly three quarters of the household in the lowest income class and about 90 per cent in the middle and highest income classes preferred to save rather than spend any extra

money not needed for ordinary living expense. The survey also reveals that very few of the middle class people and of low income class find it feasible to save due to increased cost of living.<sup>1</sup>

The small amount of saving specially from middle class in turn not only restrains growth of life insurance saving but is also responsible for many cobwebs in the planned and rapid economic development of the country.

It will thus be seen that the growth of life insurance is not only related but in a way it is based upon the housing development in the economy. What is all the more important investment in housing meets most of the investment requirements of LIC. This is explained in the following Section.

## II(a)

### SUITABILITY OF HOUSING TO MEET THE INVESTMENT REQUIREMENTS OF L.I.C.

The investment policies of L.I.C. are conditioned by financial circumstances and by the terms on which it holds the funds of the policy holders. In order to appreciate the facts it is essential to know fully the nature of the life insurance business and the terms of life insurance policies.

An ordinary life insurance policy is a contract where the insurance company agrees to pay a stipulated amount to a beneficiary upon the death of an insured person in consideration of certain periodic payments to the Co-operative. When the Corporation has entered into a number of such

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1. National Council, of Applied Economic Survey: Delhi Saving Survey - Asia Publishing House, New Delhi-1960.

contracts it has, in effect, set up a system whereby many persons pay into a fund and many beneficiaries draw out of the fund upon the death or maturity of the insurance policies. The size of the payment (premium) made periodically into the fund for each insured person for any given amount of insurance is influenced by a number of factors such as mortality, rate of interest, and expenses. The surpluses on these accounts result in the accumulation of fund.

The accumulation of life fund at a stipulated rate is an essential and integral part of the life insurance business. This fund which accumulates under level premium method belongs to the policy-holders. It constitutes about 90 per cent of the total liabilities of the Corporation. Reserve and other contingencies are 9 per cent, less than 1 per cent of the assets serve as capital cushion. This means that L.I.C. has very limited ability to absorb loss of principal. Losses equal to only a small fraction of the total amount of its invested assets can easily jeopardise its solvency. In this respect its position is very much like that of commercial banks which have little ability to risk their capital. But the nature of life insurance contract that is assumption of earning at least an assured rate of interest makes the L.I.C. interest rate conscious. In the interest of the business it had to follow a well conceived policy and has to reshuffle its portfolio structure in order to earn a guaranteed minimum rate. The purpose, therefore, of a life insurance office is not simply the 'Safety of Capital' but earning of maximum possible interest. The undue stress

on 'Safety of Capital' and subordinating the yield on investment can lead to its virtual insolvency.

However, in the maximisation of return LIC has to assume risk as 'yield' varies inversely with 'risk'. The greater the risk the higher the yield is the rule rather than the exception. In a developing economy, 'risk' is not only inevitable but also it appears in the widest and most unpredictable diversity of forms such as scientific advances, war, catastrophes of nature, fraud, monetary debasement and an endless variety of political, industrial and economic changes.<sup>2</sup> The central problem of an investment policy, therefore, is the allocation of the available funds among the various types of securities including variations in such proportions under changing conditions, where the Corporation could maximise its income and 'minimise risk'. The Corporation has the choice of several alternative policies which it can follow in organising its portfolio structure for protection against the basic risks. It can, for example, eliminate many kinds of risks through careful selection of individual issues. This involves the employment of fixed-income obligations to produce a steady, perhaps modest, but relatively safe income return, usually requiring a minimum of supervision. But in

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2. The risks are also classified as financial risk or business cycle risk which are caused due to the changes in the financial ability of the issuer. Another type is the risk of gain or loss caused by change in the level of interest rates in the market, known as the interest-rate risk. A third influence upon the outcome of investment is change in the purchasing power/risk. (See Sauvain, Harry-Investment Management Prentice Hall, Inc., Englewood; Cliff's N.S. 1959, Chapter V).

pursuing a policy, the Corporation could not achieve the best results.<sup>3</sup>

Another common approach is that the Corporation like a 'wise investor' as Williams has used the term, might select after a thorough analysis, of 'margin of safety'.<sup>4</sup> Only such investments which are selling 'below their true worth'. The merit of such an investment is that:

"a large income payments are received in subsequent years because things turn out better for the security than most people expected, a handsome return on the principal can be enjoyed."<sup>5</sup>

Such an approach tends to be speculative in nature and relies heavily on success in forecasting future trends. Cautiously employed, however, it is one answer to the problem of protecting an investment fund against certain risks which cannot easily be avoided. In pursuing this policy,

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3. The Returns from such an investments programme are limited and the Corporation could not earn the 'maximum possible yield'. For the impact of such a programme on 'yield' see Dowrie George W and Fuller, Douglas, R: Investments - John Willey and Sons Inc., New York, 1950, p. 114.
  4. Investments theories recognise that the margin of safety concept is essential to the choice of securities. In the case of debentures or preference shares investment this margin is usually represented by the excess of earning power over interest or dividend requirements, or of the value of the enterprise above the senior claims against it. In the case of an ordinary share it should be represented either by the excess of calculated intrinsic value over the price paid or else by the excess of expected earnings and dividends for a period of years above a normal interest return. This concept of margin of safety is also used as the touchstone to distinguish an investment operation from a speculative one. For further details see Graham Benjamin: The Intelligent Investor - Harper and Brothers Publishers, New York, 1959, Chapter 16)
  5. Williams John Burr: The Theory of Investment Value - North Holland Publishing Company Amestendam - 1956- p.4.



two conditions are implied. In the first place the Corporation should accumulate a Reserve from the income or profits on appreciation in anticipation of inevitable loss. The other is to spread the investments widely within each class so that the total effect of the errors is likely to be representative rather than extreme. In practice both are employed to protect the fund from 'uncertain events.'

The policy of diversification which is largely followed by the insurers is realistic in recognising that at least some of the investors judgements will prove wrong. It accepts the premises that no security is safe beyond question and that analysis of investment risks cannot weed out all vulnerable investments. It acknowledges the reality that the Corporation must be ready for the unforeseen and unpredictable losses. Thus, diversification is recognised as an important tenet of investment policy in order to secure the advantages of favourable market condition on the one hand and to minimise the disadvantages of unfavourable, political and economic trends on the other.

A policy of diversification requires that the portfolio should be spread among different classes of investment e.g., government securities, debentures, preference shares, ordinary shares, properties and mortgages etc. This form of spreading is desirable to insulate the fund against unforeseeable changes of an economic or political character which may affect different class of investments in different ways.

II(b)

SUITABILITY OF REAL ESTATE TO L.I.C.

Thus, the investment attributes of real estate investment resolves around four important factors viz: dependability of principal; realibility of income marketability and 'investment management'. Safety of Principal, when funds are used to acquire real estate whether residential or commercial, for income, is much different than that of property obtained through foreclosure. In the latter instance the investor has acquired the title of the property as a last resort, whereas in the former case title to the property is deliberately sought because of the inherent value of the property.

The factors affecting the safety of funds invested in housing developments are mainly associated with the ability to rent the project. The ability to rent depends not only on the desirability of the living accommodations provided and the rent charged but also upon neighbourhood conditions surrounding it, location with regard to places of employment and accessibility to facilities such as schools, shopping areas, and transportation. In addition to these factors, consideration must be given to the total supply of rental housing with which the project must compete, and, possible government rent control measures.

Investment in real estate are usually considered to possess a minimum degree of liquidity. Not only is there

no price certainty from the sale of the asset, but they are not readily marketable, even in periods of high level economic activity. This is explained in part by the absence of organised real estate markets, and in part by the large indivisible units to be transferred. In periods of depressed economic activity, this may result in real estate being unmarketable at virtually any price.

To compensate for risk and lack of liquidity in the ownership of real estate, the anticipated yield therefore is generally higher than the alternative investments.<sup>6</sup> In addition, investment in real estate often provides an opportunity for capital appreciation. This may be obtained in the residual value of the property whose cost has been fully amortised, or through a rising price level.

Investment in Real Estate presents a management problem which is absent in other types of investment. In case of ownership of real estate L.I.C. must set up some form of management department to carry out the operation of the project. This, in effect involves establishing a separate business within the organisation, and if the project is to be constructed by Corporation, the additional problems of constructing and planning are incurred.

An administrative consideration is the impact of the social legislation of recent years which tends to favour tenants over landlords. Rent control providing some evidence of this tendency. The extension of this social attitude could seriously undermine the desirability of real

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• Schultz, Robert E. 4fe Insurance Housing Projects - Richard D. Irwin Inc., Homewood, Illinois, 1956, p.21. ....15

of real estate as an investment. In addition to the problems of **tenant selection**, the Corporation in capacity of a landlord has the problems of putting rent increases into effect when they are warranted, evicting tenants when necessary, and of establishing and enforcing rules and regulations connected with tenant conduct, all of which can become sources of unfavourable publicity. Thus the problem connected with managing and operating housing development are generally considered a major disadvantage; having the responsibility of managing the project. The advantage of the real estate investment on the other hand is that the Corporation has direct control over the property. Moreover, housing construction is a great social service in view of the housing shortage in the country and this form of investment might bring a good name for the L.I.C. which would be a source of great business. Moreover, the managerial problem involved in real estate ownership are usually overcome through the organisation of Real Estate Department, whose efficient working minimises several risks in this particular type of investment.

It is clear, therefore, that the investment in real estate investment can form the basis of an attractive segment of LIC's investment portfolio. The amount invested may never be great because of the administrative problems involved and restrictive legislation, but these comparatively new sources of investment could prove a profitable venue of investments.

no price certainty from the sale of the asset, but they are not readily marketable, even in periods of high level economic activity. This is explained in part by the absence of organised real estate markets, and in part by the large indivisible units to be transferred. In periods of depressed economic activity, this may result in real estate being unmarketable at virtually any price.

To compensate for risk and lack of liquidity in the ownership of real estate, the anticipated yield therefore is generally higher than the alternative investments.<sup>6</sup> In addition, investment in real estate often provides an opportunity for capital appreciation. This may be obtained in the residual value of the property whose cost has been fully amortised, or through a rising price level.

Investment in Real Estate presents a management problem which is absent in other types of investment. In case of ownership of real estate L.I.C. must set up some form of management department to carry out the operation of the project. This in effect involves establishing a separate business within the organisation, and if the project is to be constructed by Corporation, the additional problems of constructing and planning are incurred.

An administrative consideration is the impact of the social legislation of recent years which tends to favour tenants over landlords. Rent control providing some evidence of this tendency. The extension of this social attitude could seriously undermine the desirability of real

6. Schultz, Robert E. 4fe Insurance Housing Projects - Richard D. Irwin Inc., Homewood, Illinois, 1956, p.21. ....15

of real estate as an investment. In addition to the problems of **tenant selection**, the Corporation in capacity of a landlord has the problems of putting rent increases into effect when they are warranted, evicting tenants when necessary, and of establishing and enforcing rules and regulations connected with tenant conduct, all of which can become sources of unfavourable publicity. Thus the problem connected with managing and operating housing development are generally considered a major disadvantage; having the responsibility of managing the project. The advantage of the real estate investment on the other hand is that the Corporation has direct control over the property. Moreover, housing construction is a great social service in view of the housing shortage in the country and this form of investment might bring a good name for the L.I.C. which would be a source of great business. Moreover, the managerial problem involved in real estate ownership are usually overcome through the organisation of Real Estate Department, whose efficient working minimises several risks in this particular type of investment.

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II(c)

THE RESPONSIBILITIES OF BROADER TRUSTEESHIP  
DUE TO THE SOCIO-ECONOMIC STATUS OF L.I.C.  
AND INVESTMENT IN HOUSING

It has already been shown that the life insurance policy is a written contract between the insured and insurer. Thus in a legal sense, life insurance management in its relationship to the policy-holder is not that of a trustee. But in practice, however, the business is carried on with all the characteristics of a 'Trust'.<sup>7</sup> Thus in the Lok Sabha, speaking on the life insurance (Emergency Provisions) Bill on the 24th February, 1956, the Finance Minister, laid great emphasis on the concept of trusteeship which should be the 'corner stone of life insurance'. ●

Justice Chagla in his report also emphasised:

"The funds represent the savings of millions of hard working people of the country and there is special obligation cast upon those who administer those funds to administer them for the benefit of the policy holders".<sup>9</sup>

Dealing with the policy of investments, Mr. Deshmukh, the then Finance Minister has rightly pointed out that the funds must be invested so as to secure the maximum yield for the policy-holders that it may be possible to secure consistent with the safety capital. The doctrine of guardianship of policy-holder's interest also implies that besides providing a degree of 'social security', L.I.C. will also

7. Magee, John, H. Life Insurance: Richard D. Irwin, Inc. Chicago 1951, p.753. No.

8. Lok Sabha Debates- 29th February, 1956, Vol. 1/12, Lok Sabha Secretariat, New Delhi, columns, 1139.

9. Report of the Hon'ble Mr. M.C. Chagla, Chairman of the Commission of Inquiry into the affairs of the Life Insurance Corporation of India, New Delhi, 10-2-1958 p.2.

protect the 'economic interest' of the policy-holders against the falling value of the purchasing power of money. This view has gained considerable importance in recent years due to rising prices.<sup>10</sup> Thus, Dr.V.K.R.V. Rao has pointed out:

"...this trend (falling value of the rupee) will continue because of the country's economy-wherefore, it is imperative that the insured persons must be compensated for the loss of money's value".<sup>11</sup>

Obviously L.I.C. can not ignore the changing expectations of the policy-holders because of its 'Trusteeship duties'- which it has assumed at the time of nationalisation and also because:

"...there is a general awakening among the people. In the years to come, they will expect more and more out of their investment in the Life Insurance Corporation. The idea of buying a policy to cover risk has become outmoded. The L.I.C. should be prepared to meet this challenge."<sup>12</sup>

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10. Day has explained the popular view point in the following words:

"Whereas before the war a with profit policy-holder thought that if he was prepared to take the rough with the smooth then on the whole he got better benefits from a with-profit policy than from a non-profit policy, now-a-days the with-profit policy-holder also has in mind the possibility of inflation and the thought that a with-profit policy may prove a hedge albeit slight, against the inflation. The man who takes out a policy partly to provide some life cover for his wife and partly to save money, perhaps little to pay school fees or against his old age, definitely seeks an investment service in that he wants a with-profit policy to provide some protection against possible inflation.. In theory an office has only to pay claims to satisfy its obligations, but in practice unless some protection is given against inflation, it could kill or severely reduce a large part of 'fixed money' life insurance business." (Day, J.G. Developments in Investment Policy During the Last Decade-Journal of the Institute of Actu Vol. 85, Part II, No.370, 1959, p. 127.

11. Eastern Economist: What People Want from the L.I.C. Today September 1, 1961, p.408.  
12. Eastern Economist: Loc. Cit., p.408.



The foregoing remarks of Dr. Rao are justified because the composition of LIC business shows that in India people not only consider life insurance as a method of protection but also as a media of saving. As such they are obviously interested in the future purchasing power of money. Since the life insurance is a long-term contract there is therefore a moral obligation on L.I.C. to protect the interest of its with-profit policy-holders.

Besides this, primary obligation towards its policy-holders the 'effective mobilisation of savings entails enormous responsibility on L.I.C. It is important that the Corporation should invest its funds in the larger economic and social interest of the country. Moreover, with the increasing life insurance consciousness, policy-holders will form an important segment of the total population. Investment for social advancement of the country will, therefore, be of ultimate benefit to the policy-holders. It has also been stated in the nationalisation preamble that "L.I.C. will invest in ventures which further the social advancement of the country".<sup>13</sup> To achieve this objective Dr.C.D.Deshmukh, the then Finance Minister, also called upon the L.I.C. to keep its investment policy alive to the following facts:

- "(a) The Corporation will never lose sight of the fact that as the single largest investor in India, it has to keep before it the interest of the community as a whole. It will, therefore, invest in ventures which further the social advancement of the country"

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13. Estimates Committee, p. 52.

- (b) It will take no parochial view. Its funds are drawn from all over India and they will as far as practicable considerations allow, be invested for the good of the entire country. Thus there shall be studied diversification of investible funds which is an essential requirement of any insurer, particularly the sole insurer of a country.
- (c) There is not the slightest intention that the L.I.C. should indulge in speculation and thus take advantage of temporary fluctuations in market prices. It must necessarily invest on a long-term basis". 14

Further, investment for 'social advancement' is not peculiar for L.I.C. as it is in conformity with popular view on the subject. For instance in propounding his Fourth Principal of investment, Peglar has stated in 1948:

"Offices should endeavour to orientate their investment policy to socially economically desirable ends." 15

The logic of this objective has been clearly set by Peglar as follows:

"This is not the place to discuss the ethics of investment policy or to what extent offices should sacrifice the narrower interests of their policy-holders or shareholders for the wider public good. It may be doubted whether, in view of the very large funds which life offices have available for investment and the influence which the employment of these funds must have, they would want, or be able, to escape the responsibility for using them in the wider public interest, so far as this is not wholly inconsistent with the interests of their policy-holders. Offices certainly failed to escape that responsibility during the war. Nevertheless, whether or not this principle is justifiable on purely moral grounds, it is contended that it is essential purely on the grounds of expediency." 16

In this way investment for social advancement becomes quite important for L.I.C. Moreover, a policy tending to increase economic and social welfare will only benefit the policy-

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14. Deshmukh, C.D.: Speech in Lok Sabha, quoted in Estimate Committee Report, p.41.

15. Journal of the Institute of Actuaries-Vol.LXXIV, Part IX, No.339, Op.Cit., p.186.

16. Journal of the Institute of Actuaries, Vol.LXXIV, Part II, Op.cit., p. 186.

holders as with the 'effective mobilisation of the total population.  saving by LIC's policy holders will constitute a significant proportion of

It might also be mentioned here, that the furtherance of the public interest has good publicity value which will facilitate the sales of life insurance. Such a policy may, therefore, be considered to conform to one of Bailey's minor canons, which suggests that investment policy should, wherever possible, aid the business of life insurance. It is, therefore, clear that in its broader trusteeship duties L.I.C. has to invest for the economic and social advancement of the country. In a planned economy it means that the investment policy of L.I.C. should harmonise with the economic and Social Policy followed by the Government.

Broadly speaking, the objective of social advancement is so large and comprehensive that it is the government as a whole rather than LIC which can hope to achieve it. This is a responsibility which is hardly possible for the LIC to carry out. There can be no question of the Corporation furthering this goal, by making purchases of government securities the responsibility passes on to the government. If it were to further the objective of social advancement through other investment it can hardly do so without resorting to a dynamic investment policy.

The direction to which these funds should flow, will depend upon the interpretation of the word 'social advancement'. To my mind, the funds that are invested to achieve the for to the extent the LIC funds are invested in government securities,

national objective of socialist pattern of society, will also contribute to the social advancement of the country.

Social justice in the context of the investment of life fund would mean that the investment must bring maximum possible return for policy-holders and at the same time it should satisfy some of the socio-economic need of the country.

Broadly speaking 'policy-holders' interest and 'national interest' are not contradictory. And at least investment in housing presents an ideal compromise between the two. For housing is a social problem and investment in housing brings relatively much larger return than is earned on any other equity. The average annual return on equities, for example, fluctuates from 1.88 to 11.30 per cent depending upon the type of industry and company. As against this return on land and building particularly in most of the metropolitan cities has probably been in the range of 25 to 35 per cent. This of course is an illustrative estimate and subject to variation from place to place. Over a long period, the average return has been as high as 100 per cent depending on the type of area and city etc.<sup>17</sup>

In terms of capital appreciation, land and building prices have soared to anything between 100 per cent to 300 per cent in different areas. As against this, the prices of ordinary shares have widely fluctuated. Uncertainty in terms of decline in capital value of ordinary shares has considerably increased during recent years.

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17. NCAER: Capital Market in a Planned Economy. Op.cit.p.54.

II(d)

LEGAL FRAMEWORK OF L.I.C.'s. INVESTMENT

The extent to which L.I.C. could invest in one particular investment is also circumscribed by legal stipulations. While the liability characteristics call for the maintenance of certain proportion of assets in a form which can be readily convertible into cash without considerable capital loss, the former excludes insurance funds from the investment in certain fields. The objective of legal provisions is to maintain the financial solvency of the corporation and to protect the policy-holders interest.

Under Section 27A of the Insurance Act as applied to the LIC with slight modifications, in August, 1958, the investments of the controlled funds of the Corporation are divided, as before, into three broad categories, namely, (a) Government and approved securities (i.e. mostly government and semi-government securities), (b) investment approved under new Section 27A and (c) 'other' investments. Similar as under the old provisions, 25 per cent of the controlled funds should be held in Government securities, a further sum equal to not less than 25 per cent in government securities or other approved securities and not more than 15 per cent in 'other' investment. The balance of about 35 per cent is to be held in 'approved' investments as defined in the amended section 27A of the Insurance Act. Two important modifications have been made in the old section 27A regarding approved

investments. First, in terms of sub-sections(3) and (4) of the old section 27A, an insurer could not hold more than 2 per cent of the subscribed share capital and debentures of a banking or an investment company and 10 per cent of the subscribed share capital and debentures of any one company (other than a banking or investment company). This has been modified so as to allow the L.I.C. to hold upto 30 per cent of the equity share capital of a company, with a further provision for exceeding this limit with the prior approval of the Central Government.<sup>18</sup> Second, under the old Section 27A(5), the insurers were completely prohibited from invest in private limited companies; but under the modified section 27A(7) the Corporation is permitted to invest in private companies as well with the prior approval of the government.

As regards the 'other' investments, the L.I.C. can invest upto 15 per cent of its controlled funds on unanimous recommendation of the Investment Committee (constituted under Section 19(2) of the L.I.C. Act) or on the resolution of the Corporation passed by a majority of at least three fourths of the members present at the meeting. Further under section 27A(8) , the Central Government has reserved the power to require the Corporation not to invest its funds in any investment specified by it, or whether it has any existing investment to realise them in a specified time.

By Section 6 of the L.I.C. Act and also by clause 1(a) of Section 27A of the Insurance Act, 1938, the Corporation is

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18. The increase in percentage from 10 to 30 was caused because of the inheritance of the LIC. The LIC with 243 companies found itself with percentages of holdings in many companies more than 10 per cent. So it was necessary to resort to the modification (Lok Sabha Debates, Second Series, Vol. XXII, No. 10, 29th November, 1958, columns. 2160)

empowered to invest in immovable property situated in India **or in any other country!** Provided the property is free from any encumbrances. It is also empowered to invest in first mortgage on immovable property situated in India under any Housing or Building Scheme of a Public Limited Company or a Cooperative Society registered under the Cooperative Societies Act, 1912, or under any law for the time-being in force. The Corporation can also extend loans to the policy-holders for housing construction.

### III

#### INVESTMENT PATTERN OF L.I.C. IN HOUSING

LIC's investment in housing is of comparatively recent origin. Before the nationalisation of life insurance, the erstwhile insurance companies did not invest much in housing. Their investments were mainly incidental in commercial buildings which they have constructed for their office use. Ownership of some buildings they have also acquired under foreclosure. Although 48 per cent of the mortgage loans were sanctioned for building construction, they were mainly extended for commercial establishments.

Housing investment is mainly a post-nationalisation phenomenon. The introduction of several Housing Schemes by the Central and State Governments provided the corporation to discharge some of its socio-economic responsibilities with safety and relatively better yield than on government securities. Housing investment has now become an important outlet for LIC funds. In 1968, the total investment of LIC were Rs.1,177,74.67 lakhs. Out of this, Rs.227, 12.26 lakh approximately 19 per cent can be directly ascribed to housing. The break-up of this is given in Table-2.

TABLE - 2

PATTERN OF LIC INVESTMENT IN HOUSING IN INDIA (Rs. Lakhs)

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1. Loans on Mortgages of Property	35,05.18
2. Loans to State Governments for Housing Schemes	21,46.35
3. Loans to a Housing Board for Financing Housing Co-operatives guaranteed by Government	55.80
4. Loans to cooperative Housing finance Societies guaranteed by Government	34,25.71
5. Loans to State Government for financing Housing co-operatives of scheduled caste and tribes.	23,10.91
6. House Property owned by the Corporation	34,37.41
	<u>327,17.26</u>

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SOURCE: LIC: Annual Report and Accounts.

Over and above this the Corporation is also assisting housing activity by granting loans to the policy-holders under 'Own your Home' scheme; grant of loans to the co-ops and to the cooperatives formed by the employees of the corporation as well as its own employees. The total financing of housing activity by the Corporation inclusive of such loans as those stated in table-2 constitute about 17.8 per cent of the total assets of the Corporation.

A brief review of these investments will show their relative position in different zones.

(i) MORTGAGE LOANS

Mortgage loans are the oldest method of financing the building construction that LIC has undertaken since its birth. At the time of nationalisation, the Corporation inherited



mortgages of about Rs. 266.51 lakhs from the erstwhile insurance companies. But most of the loans were defective. It was not that a number of these loans had been granted on inadequate security of property or on property the title of which was not clear. Instances where the mortgages had been fraudulently created were also not wanting.<sup>19</sup> Most of the loans were concentrated in Western and Eastern zones. The share of the Eastern Zone alone in the total loans sanctioned constituted about 50 per cent; Western Zone 27 per cent. The remaining 14 per cent was shared by other zones, of which Northern Zone claimed 5 per cent.

Before initiating a new Mortgage Scheme, the Corporation regularised some of the defective titles of mortgages. It also written off bogus mortgages. In its new lending programme, Corporation spread its investments in the neglected areas with a view to remove regional imbalances in its investment. Consequently, it can be seen in Table-3 that the Corporation has invested about 33 per cent of its new funds in Northern Zone against 5 per cent invested by the private insurers. Mortgage therefore, enabled the Corporation to spread its funds in neglected areas. The same opportunity was not afforded to it by the stock Exchange securities.

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19. Mohammad Mohsin: Investment of Life Insurance Corporation Fund - Aligarh Muslim University Publication-1966, Aligarh, 1966, p.220.

TABLE - 3

OUTSTANDING MORTGAGE LOANS

	Mortgage loans inherited by Corporation		Mortgage loans granted by Corporation		Total mortgage loans outstanding	
	Number	Amount (Rs. lakhs)	Number	Amount (Rs. lakhs)	Number	Amount (Rs. lakhs)
Northern zone	52	13.92	2,315	839.96	2,367	853.88
Central zone	22	12.35	457	123.40	479	135.75
Eastern zone	329	156.96	652	296.70	981	453.66
Southern zone	107	11.25	1,711	551.80	1,818	563.05
Western zone	149	72.03	513	426.93	662	498.96
Total	659	266.51	5,648	2,233.85	6,307	2,500.36

SOURCE: LIC Reports and accounts, 1963.

(ii) FINANCING GOVERNMENT HOUSING SCHEME

During the second Plan, the Life Insurance Corporation began to provide funds for house building to middle income groups and to State Governments for undertaking rental housing for low paid employees. Housing on a considerable scale was also undertaken by the Central Government Departments and Public enterprises for their employees.

For housing and urban development programme, the Third Five Year Plan provided Rs.112 crores as against the revised outlay of Rs.84 crores in the Second Plan. The LIC contributed an additional sum of Rs.60 crores in the State Housing programmes during the Third Five Year Plan.

The loans sanctioned by the Corporation are for financing the Middle Income Group Housing Scheme, the Rental Housing Scheme, the Low Income Group Housing Scheme, the plan for Labour Housing

Scheme, and the Land Acquisition and Development Scheme. investment in these schemes has been analysed in Table-4.

TABLE - 4  
SCHEME-WISE DISTRIBUTION OF OUTSTANDING LOANS OF THE

CATEGORY	AMOUNT (in Rs. Lak)
(a) Middle Income Group Housing scheme	33,92.96
(b) Rental Housing Scheme	13,76.87
(c) Low Income Group Housing Scheme	12,35.51
(d) Village Housing Project scheme	94.37
(e) Plantation Labour Housing scheme	9.72
(f) Land Acquisition and Development Scheme	13,37.42
(g) Rebuilding of Koyanagar	1,00.00
Total	74,46.85

SOURCE: LIC Annual Report Accounts.

A Zone-wise distribution of the loans in various Housing Schemes in Table-5 shows that the Corporation has now secured 32.6 per cent in South Zone; 22 per cent in Eastern Zone; 15

TABLE - 5  
LOANS TO STATE GOVERNMENTS FOR HOUSING SCHEMES-  
Outstanding or at 31st March, 1968.

ZONE	Amount of Loan	Percentage to Total Loans
<b>NORTHERN ZONE:</b>	1609.35	17.9
Haryana	62.00	
Panjab	752.37	
Jammu & Kashmir	31.37	
Delhi	100.00	
Rajasthan	613.61	
<b>CENTRAL ZONE:</b>	1220.37	12.9
Madhya Pradesh	561.29	
Uttar Pradesh	659.08	

<b>EASTERN ZONE:</b>	2033.98	2.6
Assam	103.34	
Bihar	507.59	
Orissa	643.00	
West Bengal	829.15	
<b>SOUTHERN ZONE:</b>	3188.49	32.6
Andhra Pradesh	866.01	
Kerala	331.31	
Madras	1204.72	
Mysore	785.95	
<b>WESTERN ZONE:</b>	1344.66	14.00
Gujarat	262.17	
Maharashtra	1082.49	
<b>TOTAL:</b>	<u>9446.85</u>	<u>119.0</u>

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SOURCE: LIC Annual Report and account.

per cent in Northern Zone; 14 per cent in Western Zone and 120 per cent in Central Zone. This disparity can not be removed by the Corporation. It depends upon the demand for loan by the State Governments. Their respective efficiency in the formulation and execution of Housing Programme determine the disposal of LIC funds. LIC, by itself, can not take initiative.

### (iii) FINANCING THE COOPERATIVE HOUSING SCHEMES

The Corporation also grants loans to cooperative housing societies and other authorities for financing housing cooperatives in various States.

The extent to which the Corporation can use these agencies will depend upon the standing and stability of the Cooperatives in different regions. It appears from Table-6 that these cooperatives are well rooted in Western Zone with claims for more than 78 per cent of the LIC's investment in cooperative housing Schemes.

TABLE - 6

LOANS TO COOPERATIVES AND OTHER AUTHORITIES FOR FINANCING  
HOUSING COOPERATIVES  
(Outstanding as at 31st March, 1967 & 1968)

	1967	Percentage to Total	1968	Percentage to Total
Northern Zone	-	-	-	-
Central Zone	37.60	1.3	35.20	0.9
Eastern Zone	-	-	50.00	1.4
Southern zone	624.30	27.4	681.50	17.8
Western Zone	2279.10	77.3	3044.21	79.9
<b>TOTAL</b>	<b>2941.50</b>	<b>100.0</b>	<b>3810.91</b>	<b>100.0</b>

SOURCE: LIC Annual Reports and accounts

(iv) LOANS TO PUBLIC COMPANIES FOR FINANCING  
HOUSING CONSTRUCTION

These loans are granted by LIC to the companies for housing construction. They generally take two forms (1) loans to public limited companies for the purpose of providing houses to their employees and (2) loans to cooperative Housing societies of employees of Public Limited Companies. As compared to other forms of investments, these type of loans are quite insignificant. For example, in 1968, a loan of Rs. 15.00 lakhs was sanctioned to one company and Rs. 11.18 crores were sanctioned to two Cooperative Housing Societies of the Public limited companies.

The Corporation also grants loans to Cooperative Housing Societies formed by the employees of the Corporation and also to individual employees for purchase or construction of houses.

(V) "OWN YOUR HOME" SCHEME  
is

The 'Own Your Home' Scheme is now operated in 110 centres. It covers all the cities and towns in India having a population of one lakh and above as per the 1961 census. There are 16 centres in Northern Zone, 26 in Central Zone, 22 in Eastern Zone, 35

Southern Zone and 22 Centres in the Western Zone.

(vi) DIRECT INVESTMENT IN HOUSING

LIC has not so far taken in hand any scheme for the direct construction of houses at the commercial basis. It has a Building Department which is engaged in the construction of buildings for its business offices and training centres. Only a small sum has been invested in the construction of staff quarters. Even this is not at a substantial scale. Some idea of this can be had from the following Table-7.

TABLE-7

PROJECTS COMPLETED UPTO 31st MARCH, 1968	
Description of the Projects	COST (In Rs. lakhs)
1. Divisional Office building at Rajkot	18.57
2. Extension to Divisional Office, Ajmer	4.15
3. Branch Office building at Rajahmundry	2.12
4. Staff quarters at Bhilai, Madras and Surat	9.54
5. Training Centre, Bombay	10.13
6. Miscellaneous	3.13
Total:	47.64

SOURCE - LIC Report and Accounts, 1968

ASSESSMENT OF THE INVESTMENT POLICY OF LIC IN HOUSING

From the above analysis of the pattern of LIC's investment in housing it is quite clear that the Corporation has not neglected its responsibility in financing housing development. Much, however, can be said about the means selected by the Corporation.

Take for instance its investment in Mortgages. From an investment point of view mortgages are quite safe. Properly

made and carefully selected mortgages loans provide an abundance of security. The safety is assured as the Corporation possesses a lien upon property, the value of which exceeds the amount of the loan sanctioned by it. This permits shrinkage in value at the same time leaves a margin of protection above the unpaid loan balance. Mortgages offer attractive income- a higher yield than in other fixed obligations. The duration of the mortgage loan can be planned with the term of liability of the borrower. In this manner a carefully planned and properly constituted portfolio affords a higher degree of liquidity than is generally recognised. The pattern of mortgage loans provide for self-liquidation as a result of monthly payment of principal and interest.

These advantages of mortgage loan conceal significant disadvantages and especially in the absence of organised mortgage market their severity is much more felt. One of the attributes of mortgage loans which contributes materially to their liquidity is their comparatively short life due to periodic instalment. The repayment of loans through instalments create a great disadvantage by aggravating the problem of liquidation. Moreover, in the wake of any serious depression there is likely to be an abnormal number of defaults and foreclosures among the real estate loans of LIC. Falling agricultural prices, increasing unemployment and decreasing incomes increases the difficulties to both agriculture and urban borrowings in making the principal and interest payments on their loans. Mortgages raise the problem of cost and lengthy foreclosure proceedings with possible adverse public relations.

Even with its modest financing the experience of LIC in mortgages is not at all happy. Not only that the Corporation inherited a large number of defective mortgages at the time of nationalisation, but it is also wrestling with a number of litigations pending against the fresh loans sanctioned by the Corporation itself. For instance, out of 5648 number of mortgages of about Rs. 2238.67 lakhs, outstanding upto 1968, the Corporation has filed suits against 468 parties involving an amount of Rs. 183.41 lakhs. This, in other words, means that about 8 per cent of mortgages are under dispute. Out of this number, the cases of about 43 have been settled after a long time; 425 cases are still pending. A zonal-wise break-up in the following table shows that litigation is a common feature of mortgages in almost all zones and that the suits have been filed both for the realisation of principal amount as well as for the realisation of interest. This experience the Corporation has gathered where the loans have been granted mainly for business purposes or for construction of commercial buildings which generally have tremendous paying capacity. The chances of lapses in the repayment of principal and interest amount can be more when the loans are sanctioned to middle income and low income groups as these loans are used for consumption of living accommodation. Besides, this class generally has high propensity to consume and earn, therefore, pose the problem of foreclosure more frequently than what we have observed in case of mortgage loans sanctioned for business purposes. In view of this adverse aspect of mortgages, it is no wonder that like other insurance companies in the West, LIC may one day ponder on the question: "What is



safer to start with ownership or to end with it" This situation in India can arise at much earlier stage because there are no specialised mortgage institutions like USA to provide liquidity to this form of investment.

TABLE - 8

PENDING SUITS FOR RECOVERY OF MORTGAGE LOANS AS AT 31st March, 1968.

	Number of Mortgages	(in Rs. Lakhs)	
		AMOUNT CLAIMED IN THIS SUITS	Principal Interest

Suits including those where preliminary decrees have been obtained:

Loans inherited by the Corporation:

Northern zone	5	0.55	0.03
Central zone	6	4.13	4.08
Eastern Zone	119	61.19	18.39
Southern Zone	27	3.50	1.08
Western zone	5	9.11	0.16

Loans granted by the Corporation:

Northern Zone	1	0.50	0.05
Eastern zone	2	5.15	0.63
Central zone	1	1.49	0.25
Western zone	1	1.07	0.05

TOTAL: 167 36.69 24.78

SOURCE: LIC Reports and Accounts, 1968.

point  
from the point of view of investment in real estate, it should be remembered that the 'forced ownership' of the property (i.e. the situation where the property has been acquired through litigation) is not always 'safe'. In this position, the Corporation acquires the property under most unfavourable circumstances. It even finds difficulties in realising suitable price for such property in auction sale. The management of foreclosed property is not only difficult but is also against the dignity of a life insurance office. It takes possession

of the building under most adverse circumstances and consequently faces much more problems in letting out the buildings. In case of direct investment on the other hand, the Corporation exercises its own discretion in the selection of location, building material and planning. The corporation itself holds the entire initiative and can let out the building in consonance with the privilege suited to a life office.

Similarly, LIC's policy in financing State housing Scheme need rethinking. From the investment point of view these loans are better than the investment in government securities. Their security is guaranteed by the Central and State Governments. The return on these investments is better than what is realised from government securities. But the point often arises that to what extent the loans extended by the LIC to State Governments under numerous Housing Schemes are really utilised for the purpose. In financing state Housing Schemes the Corporation had to entrust the funds at a time and manner under the terms and conditions of the state governments. The utilisation of earmarked funds depend upon the skill and efficiency of the State Governments where the Corporation itself could do very little. There are instances where the commitments made by the Corporation have not been utilised by the Governments and the funds remained idle to the detriment of interest of the policy-holders. Also, instances are not rare when State Governments have diverted the housing funds to other heads of development.

Moreover, State Governments have themselves fallen sadly short of their housing scheme targets. Their performance as regards the various housing schemes has been

dubbed 'quite unsatisfactory'.<sup>20</sup>

Likewise, the Corporation remains quite passive in the grant of loans under 'own your home' scheme. Policy loans granted for the construction of homes often lead towards immature abortion of life policies as in certain cases the premium along with the instalment of loans become too heavy for the policy-holders.

The stability and reliability of the Cooperatives in India is well known. The scope of using cooperative societies for financing housing is limited by the financial stability of these societies.

Finally, in investing in housing when the safety of funds is in question, the Corporation must draw a distinction between the 'safety sought' in investment and 'wider safety of a life office'. The latter is no doubt derived from the safety of funds but it encompasses something more than the financial security. It is true that the Corporation has full protection of the Central Government but that is not the concept of the solvency of a life office. Under a level premium method the premium rates are computed by a mathematical formula which assumes that LIC will be able to invest the funds which it accumulates out of these premiums at a definite rate of compound interest. The ability of LIC to conduct its business on a solvent basis depends apart from other factors which do not affect its financial policy, on its ability to invest its funds and keep them invested at a rate of interest not less than

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20. Review of States 'Housing scheme' - The Indian Express (New Delhi Edition), 3 Nov., 1967.

which the premium are based. The solvency of LIC, therefore, will not be attained simply with the 'safety of capital' but earning of maximum possible interest. In general, the safer the capital is from risk of depreciation, the lesser is the yield obtainable so that the conscientious pursuit of capital safety could not be relied on to produce an adequate yield.

Thus, in order to avoid this obvious contradiction in the investment of funds, LIC spreads its investment in different types of securities. Diversification whether in different forms of securities or in different regions, aims to encounter some of the risk involved in earning maximum possible return on investment. A property distribution of investment in 'fixed obligation' and in equity investment is essential to insulate funds against changes in price level.

In a period of rising prices, the market value of fixed income investment tends to decline and ordinary share tend to appreciate. Under deflationary conditions, the reverse is true. Judicious investment policy requires that the funds must be evenly distributed between equities - serving as a hedge against inflation, and fixed obligation - safeguarding the funds against financial risk and other risks involved in investment. This is the usual method of earning maximum possible return on investment with safety.

The need to pursue such a policy is pertinent, for more than one reason. In the first place, as the outlook of economic activities indicates, the present high trend in price level is unlikely to be reversed. It means that the Corporation must protect its funds from any decline in the market value of

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The need to pursue such a policy is pertinent, for more than one reason. In the first place, as the outlook of economic activities indicates, the present high trend in price level is unlikely to be reversed. It means that the Corporation must protect its funds from any decline in the market value of

assets. Thus, any such decline in value is unlikely to lead to any insolvency but it can definitely embarrass the Corporation when the funds accounts are presented before the Parliament.

Yet another important factor that the Corporation has to keep in mind while investing the life fund is that in India people do not buy life insurance simply as a way of social security but the intention behind purchasing with-profit policy is clearly to use life insurance for purpose of investment. The idea of buying a policy to cover risk has become outmoded. These days the with-profit policy-holders also have in mind the possibility of inflation and they think that with profit-policies may prove a hedge, albeit slight, against the inflation. Thus, in theory, LIC has only to pay claims to satisfy its obligations but in practice unless some protection is given against inflation, it could kill or severely reduce a large part of 'fixed money' life insurance business.

Apart from the reasons adduced above, the insuring public insists on reduction of premium rates because this is an understanding which was given by the Government at the time of nationalisation. Since 'surplus earning' is an important element of cost, the changing expectation of the people towards life insurance will exert considerable influence on LIC to increase its investment in equities with a view to compensation for increasing administrative cost and also extra sales expenditures involved in 'aggressive sales' for spreading insurance in rural areas.

At present two types of equity investments are available in India. They are ordinary shares issued by public limited companies and real estate. The chances of investing additional amount in ordinary shares are circumscribed by the extent of industrialisation and the degree of expansion of private corporate sector. It is evident that the greater the industrialisation brought about through private enterprise, the more would be the bulk of industrial securities listed on stock exchange and other things being equal, the larger would be their holdings on the part of LIC. At present the LIC already holds the substantial part of standard ordinary shares. This is evident from the fact that even with its moderate investment LIC holds about 9 per cent of ordinary shares; 21 per cent of preference shares and 28 per cent of debentures registered in stock exchange.<sup>21</sup>

It is estimated that in some of the big size companies the holdings of LIC have exceeded more than 10 per cent of the shares issued by such companies.<sup>22</sup> According to present level of dispersion of shares, it is estimated that a holding of more than 6 per cent by LIC in one company will carry sufficient weight against the unorganised number of individuals. In view of the nationalised status of LIC such concentration of holdings in established concerns create suspicion which can be detrimental to the growth of private enterprise in India. That the limit of LIC investment of not exceeding 10 to 30 per cent in any enterprise, has been reached is clear from the statement submitted by the LIC before the Central Advisory Council of

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21. Mohsin, Mohammad: *ibid*; p.214.

22. Reserve Bank of India Bulletin, Feb. 1963 -



of Industries. In that meeting the Chairman had opposed the idea of conversion of LIC loans to companies in equity investment on the simple ground that this would throw the burden of management on the Corporation for which it does not possess adequate trained staff. In most of the enterprises, according to LIC Chairman, the Corporation is already near the legal limit. The fear of back door nationalisation with its adverse psychological effects on private investment and the problems of management involved therein are other important considerations that also limit LIC's further investment in shares of established companies.

The opportunities of regional diversification are also limited in corporate securities. Industries are located, not concentrated in India in specific regions to take locational advantages and LIC with its policy of selected investment can hardly diversify its investment.

Thus, Table-9 indicates that the Western and Eastern Zones which are industrially advanced have attracted the bulk of LIC's investments. LIC holds 42.2 per cent of stock exchange securities in West Zone comprising of industrially developed states of Maharashtra; 36.5 per cent in Eastern Zone comprising West Bengal. LIC's investment in North Zone is limited to only 5 per cent as the states comprising this Zone are not yet industrialised.

It will be seen that the geographical diversification of investment which is recognised method of spreading the risk for minimising the chances of losses and for removing the regional imbalances can not be executed to its ultimate end

REGIONAL AND STATE-WISE DISTRIBUTION OF STOCK EXCHANGE SECURITIES AS AT 31st March, 1968.

Sl. No.	Regions and States	State Govt. securities (book value)	Other approved securities (securities).	Municipal Securities not included in col. (4) Book Value	Shares & Debentures of companies whose works/factories are situated in the region. Book Value.	PERCENTAGE OF FIGURES IN COLUMN (7)		Percentage of figures in Col. 6	
						Total investment in the region in Col. (2)	to the total investment in regions %		
1	2	3	4	5	6	7	8	9	10
<b>1. EASTERN REGION</b>									
(a)	Assam	8,20.27	1,68.66	-	8,06.63	17,95.56	3.56	2.01	
(b)	Bihar	12,55.32	83.63	-	13,14.96	32,53.91	6.45	3.64	
(c)	Orissa	14,53.36	3,50.13	-	2,78.16	20,81.65	4.12	2.33	
(d)	West Bengal	11,86.26	7,32.12	-	55,68.61	74,86.99	14.83	8.38	
<b>TOTAL:</b>		<b>47,15.21</b>	<b>13,34.54</b>	<b>-</b>	<b>85,68.36</b>	<b>146,18.11</b>	<b>28.96</b>	<b>16.36</b>	<b>42.2</b>
<b>2. NORTH-WESTERN REGION:</b>									
(a)	Delhi	-	15.78	9.95	4,52.50	4,78.23	0.95	0.54	
(b)	Haryana	1,11.55	1,96.30	-	79.30	3,87.15	0.77	0.43	
(c)	Himachal Pradesh	-	6.22	-	20.69	26.91	0.05	0.03	
(d)	Jammu & Kashmir	-	10.57	-	-	10.57	0.02	0.01	
(e)	Punjab	7,71.11	1,85.61	-	39.48	9,96.20	1.97	1.11	
(f)	Rajasthan	17,42.55	2,03.50	-	92.91	19,33.96	4.04	2.23	
<b>TOTAL:</b>		<b>26,25.21</b>	<b>6,17.98</b>	<b>9.95</b>	<b>6,34.38</b>	<b>39,33.02</b>	<b>7.80</b>	<b>4.40</b>	<b>3.4</b>

Contd.....

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
3.	<b>SOUTHERN REGION:</b>								
(a)	Andhra Pradesh	17,78.58	15,52.62	2.01	3,23.56	36,53.77	7.24	4.09	
(b)	Kerala	11,31.23	3,00.38	-	3,73.11	13,00.28	3.60	2.03	
(c)	Madras	11,10.58	12,03.40	-	12,35.00	42,15.34	3.75	4.95	
(d)	Mysore	12,61.53	7,36.83	6.27	4,16.73	24,51.41	4.36	2.75	
(e)	Pondichery	-	3.88	-	-	3.88	0.01	-	
	<b>TOTAL:</b>	<b>61,35.30</b>	<b>38,03.61</b>	<b>8.28</b>	<b>24,43.49</b>	<b>123,90.68</b>	<b>24.55</b>	<b>13.87</b>	<b>12.1</b>
4.	<b>WESTERN REGION:</b>								
(a)	Gujarat	6,12.43	14,06.34	1,57.19	13,54.73	35,31.24	7.05	3.99	
(b)	Maharashtra	13,01.12	26,86.06	10.54	60,49.53	100,47.25	19.30	11.24	
	<b>TOTAL;</b>	<b>19,43.55</b>	<b>40,92.90</b>	<b>1,67.73</b>	<b>74,04.31</b>	<b>136,08.49</b>	<b>26.95</b>	<b>15.23</b>	<b>36.5</b>
5.	<b>CENTRAL REGION:</b>								
(a)	Uttar Pradesh	23,15.30	4,36.62	-	6,65.18	39,77.70	7.88	4.45	
(b)	Madhya Pradesh	11,69.78	2,72.39	-	5,05.15	19,46.72	3.86	2.18	
	<b>TOTAL:</b>	<b>39,85.08</b>	<b>7,69.01</b>	<b>-</b>	<b>11,70.33</b>	<b>59,24.42</b>	<b>11.74</b>	<b>6.63</b>	<b>5.8</b>
	<b>GRAND TOTAL:</b>	<b>124,04.35</b>	<b>100,18.04</b>	<b>1,85.96</b>	<b>202,71.37</b>	<b>504,79.72</b>	<b>100.00</b>	<b>56.49</b>	<b>100.0</b>

SOURCE : LIC Reports and Accounts, 1968

because the scope of diversification is itself limited by the degree of industrialisation in each Zone.

The Corporation has of course attempted to achieve geographical diversification by means of government securities registered in the Stock Exchange but they can not be used beyond a limit. Excessive investment in Government securities often runs against the interest of the policyholders because of their limited return.

From the point of view of yield with prospect of appreciation in the value of capital, real estate investment offers unique opportunity. It is estimated by the National Council of Applied Economic Research that in some regions the return from this type of investment is as high as 100 per cent with tremendous opportunity of capital appreciation. It is through this investment that LIC can attain regional diversification in its investment. The need for investing in the equity or real estate is still greater and by far more pressing.

## VI

### SUMMARY AND CONCLUSION

In the preceding pages, the basic elements of housing problem and their relationship with the investment policy of LIC has been analysed. Since LIC's investment in housing has to be conceived in proper perspective, these problems are summarised below to serve as guide lines:

- (a) In rapidly growing towns developed sites are not available to a sufficient extent;

- (b) Construction in the private sector tends to concentrate on expensive houses intended to fetch high rents and the needs of the lower middle and middle classes are not adequately catered for;
- (c) Public Housing programmes are also directed towards specific sections where the interest of the middle income housing has not received the fullest consideration;
- (d) Apart from assistance, the government now provides, adequate institutional arrangements for housing finance do not exist;
- (e) Cooperative housing has made comparatively little progress;
- (f) There is considerable need for research in building materials and techniques, and for prescribing standards of construction with due regard to the availability of local materials and the economic use of scarce materials etc.
- (g) With a few exceptions, State Governments are not adequately organised for undertaking and assisting extensive housing programmes.

These in general constitute the basic housing programmes within their framework the investment policy of LIC in housing development must be designed. In picking up means, however, we must keep in mind the experience of LIC in financing housing development.

In the first instance, it is observed that the methods used by LIC-mortgages, loans and State Housing Schemes, etc.

are indeed very ineffective. The loans are initiated by other parties and the role of the Corporation is simply to grant them after careful scrutiny. The Corporation is not even certain about their utilisation. Generally, influential persons succeed in administering a loan and there is nothing to prevent them if they use it for the construction of luxurious buildings. Similarly, the Corporation has no hold over the money granted to the State Governments for their proper utilisation.

Secondly, the Corporation should also remember that at the time of nationalisation, besides pledging to the nation to invest its funds to social and economic advancement, it has also assured that "it (the Corporation) will take no parochial view. Its funds are drawn from all over India and they will, as far as practicable considerations allow, be invested for the good of the entire country. Thus, there shall be studied diversification of investible funds which is an essential requirement of any insurer, particularly the sole insurer of a country."

If 'studied diversification' simply means that the funds must be invested in different zones, in proportion to the business drawn from that area, the Table-10 below will show that the Corporation's investments are fairly distributed.

TABLE - 10

ZONAL DISTRIBUTION OF INCOME, LIFE INSURANCE AND INVESTMENT IN INDIA

ZONE	Area ('000 of sq. mile)	Popula- tion (ac- cording to 1961 census) (in la- khs)	Percen- tage of total new life insur- ance.	Per Capita income	Per capita life insurance	Perce ntage of to tal invest ment.
NORTHERN	190.8	480.3	13.6	410	23.6	8.0
Central	284.9	1,061.2	13.7	320	10.7	10.3
Eastern	262.0	1,135.0	20.0	319	14.7	25.3
Southern	246.0	1,105.5	26.0	366	19.6	26.7
Western	192.6	608.7	26.7	428	36.8	28.4
TOTAL:	1,176.3	4,390.7	100.0	422	19.0	100.0

SOURCE: Govt. of Uttar Pradesh: Statistics Diary 1968  
LIC: Annual Reports & Accounts, 1968.

The figures of per capita income and per capita life insurance, however, tell a different story. It shows that North Zone holds a second position in per capita income and per capita life insurance. But this material prosperity is confined to two Union territories of Delhi and Chandigarh which together account for half of the total life insurance sold in the Northern Zone. The other States in Northern zone do not have adequate insurance protection nor they attract enough investment.

Diversification for the 'good of entire country' imposes additional responsibility on LIC. This implies that LIC's investment must conform with the broader objective of State Economic Policy which is directed to remove regional

imbalances. The policy statement in this connection clearly lay down:

- "(i) As far as possible, new industries should be established away from large and congested cities."
- "(ii) In the planning of large industries, the concept of region should be adopted. In each case, planning should extend beyond the immediate environs to a larger area for whose development the new industry would serve as a major focal point."

The aforesaid objectives of industrial policy fore-tell that the South zone which has vast potential and is still unexplored will become the nerve centre of the industrial development. As explained somewhere else in this paper, investment in under-developed areas by LIC in the long run will be conducive for its own growth. But with its traditional approach towards investment, LIC may not find suitable industrial securities at the initial stage of growth in Southern Zone. Direct investment in housing can form an important outlet to execute its programme of regional development with safety of capital.

The theoretical justification of real estate investment has already been explained. It need to be stressed again that the most important element in raising housing and other costs and in restricting the scale to which improvement can be undertaken in the interest of middle income group is high land prices. Specific measures for checking price rise in land value can become effective if there is institutional ownership of property.

Apart from the social point of view, investment in the acquisition of land is justified purely on financial and sound investment principles. In Southern Zone as pointed out earlier there are powerful factors like the starting up of new



industries and the establishment of new public and other offices which will considerably increase the value of land in these areas. LIC can thus cultivate the advantages of appreciation in the value of land.

The land should be acquired in bulk. After development the residential plots can be leased so that, besides the recurring income secured on account of the ground rent, a share in the increase in the value of land continues to accrue to the Corporation.

At the initial stages of development, the companies are so much involved in other problems that housing and other social welfare activities often escape their attention. They neither have the time nor resources to divert for housing development. Yet this is the right time to plan housing colonies if overcrowding and congestion of the type that has developed in old towns like Bombay, Calcutta and Kanpur is to be avoided. Planned institutional investment will not only lead to systematic development but it also relieves the companies from the pressure of providing housing facilities to their employees. The resources thus saved can be utilised for their development. As long as LIC is shy in financing the growth of small concerns, direct investment in housing can be an effective alternative arrangement.

In future, the pattern of economic development will be such that LIC housing construction will justify its investment in housing more and more convincingly. We are approaching a stage that has already been reached in many other countries. Land is growing scarcer in the town and there is increasing

over-population. Attention must be given to the establishing of city housing estates in the countryside. And this will not be possible without an increased measure of LIC investment. National and regional planning is beginning of this development but is still inadequate from the investment point of view. Private building firms will not be able to handle this problem unless financial institutions are prepared to put up with the anarchy of wild over building. But as regards price, too, it will become more difficult, indeed impossible, as time goes on, for private building efforts to provide suitable housing for the broad masses of the population. Already we can see that houses for older people and for families with several children can only be built with the help from public funds. And the towns certainly has the means to provide backing for housing schemes for they are already drawing million of rupees from the increased ground rents. Nothing could be more natural than to divert a part of LIC fund for the provision~~st~~ acquisition of land and the execution of working class and middle class houses. The increase in the population and its concentration in the town will raise more and more problems which can only be solved by the community as a whole, and in the solution of which the LIC has an important <sup>part</sup> to play.

Role of L.I.C. in Urban Housing with Special  
Reference to Southern Region

by

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Summary

The nationalization of life insurance industry in India envisaged greater and larger investments in ventures which further social advancement of the Country. As housing is a social necessity, Life Insurance Corporation is widening scope to assist public and its policy holders in meeting their housing needs. The paper describes various schemes under which the Corporation has extended its field of activity in the field of housing development.

1. Introduction

A very interesting paper was read at the Colloquium on Housing and Building Activity in Northern Region of India conducted by the National Buildings Organisation held at New Delhi in December, 1969 by Shri Mohammad Mohsin of Aligarh Muslim University. The article thrashed out the shortage felt in respect of housing in urban areas in the country and the provisions made in the various plans of the Government to meet the needs. He has stated that despite huge private and public investment in housing, the shortage of housing has been increasing at the rate of one million a year. The official figures state the shortage as 81.4 million houses. The rapid growth of population and the comparative slow pace of housing in the last two decades have created a wide gap between the overall need for housing and availability of residential accommodation, more particularly so in urban areas where industrial development has attracted more and more people from the mofussil areas. With the industrial development under way it was expected that the urgent demand would increase from 10 crores in 1961 to nearly 16 crores in 1981. The rapid increase in population is bound to cause serious overcrowding over the built-in area as would be evident from the fact, as stated by Mr. Mohsin in his paper, that 41.33% of India's total population lives in one room houses; 29.98% in two room houses; 13.55% in three-room houses; 7.64% in four-room houses and 9.50% in five or more rooms. Housing shortage is therefore the most acute problem of the day. Experts estimate that about 9.37 crores families in India are either houseless or are just without proper housing accommodation. This means that three out of every four families have either no house or own a house in a dilapidated condition. The task of fulfilling this need is stupendous.

2. Investment in public and private sector housing.

The private investment in housing during the First Five Year Plan was Rs.900 crores, during the Second Five Year Plan Rs.1,000 crores and during the third Five Year Plan Rs.1,400 crores and the statistics relating to the number of houses along with building activities in big towns suggest that private investment in housing has increased enormously during these years. The order of investment in the Public Sector Undertakings and the Central and State Government Departments was estimated at Rs.300 crores during the third plan period including the funds provided by the LIC and other institutional investors. While private investment in housing increased, there was decline in the public investment in housing. The public investment during the three plans was of descending order, being 16% of the total public sector investment in the first Plan, 8% in the Second Plan and 7% in the Third Plan; the investment in the fourth Plan has been estimated still lower at 5%. It can be stated that private investment in housing has been more due to inflation and not so much for the purpose of meeting the needs of the population for shelter, and food; more for the purpose of tax evasion and protection against rising prices than to solve the housing problem of the country. In a number of urban centres, ownership of property or land is linked with prestige to the owner with the result that a considerable amount of private saving is invested in the construction of luxurious houses which, however, has not solved the housing problem of the common man. State Housing programme is generally planned to assist selected sections of the community and to provide accommodation to its employees. The sections selected are slums and labour. The net result has been that the problem of urban housing has remained more or less the same.

3. L. I. C. as investor in housing.

3.1 The real need is in respect of housing for the middle income groups. This group has received a low priority in State Housing Programmes. It is in view of these that the financial institutions like the Life Insurance Corporation had to play their own role in development of urban housing. In fact when the Life Insurance Industry was nationalized, the Government pledged to the nation that the Corporation would never lose sight of the fact that as the single largest investor in India, it has to keep the interest of the community as a whole; it would therefore invest in ventures which further the social advancement of the country.

3.2 The L. I. C. has played its part in the field of housing with caution to start with in view of the experience it inherited from the investments in housing of the erstwhile insurers

However, after setting right many of the problems, which are inherited, and keeping in view the objective of earning maximum possible return on its investment for its policy holders and at the same time serving national economic interests, it has widened its scope to assist the public and its policyholders in meeting their housing needs.

3.3 L.I.C. has always been aware of the acute problem of housing shortage in the country and has diverted a good deal of its funds in this direction, not only through the various schemes of investment but also through loans to State Governments, Co-operative Housing Finance Societies and by constructing housing for its own employees in urban centres. The Corporation's total contribution in housing development in India, as shown in its annual Accounts as at 31st March, 1970, amounted to over Rs.258 crores. The investment in housing by insurers prior to nationalisation was not much. That was mostly in commercial buildings constructed for their office use. A few insurers invested in Property mortgages. Housing investment has been mainly a post nationalisation activity. The Corporation could discharge some of its socio-economic responsibilities with safety and relatively better yield than in Government securities through the various Housing schemes introduced by the Central and State Governments. Housing investment has become an important outlay for Corporation's funds. The total investment of the Corporation in India pertaining to Life business as at 31st March, 1970 amounted to Rs.1,487.62 crores, out of which an amount of Rs.245.10 crores (16.47%) has been in housing investment (Table I)

Table I: L.I.C. Investment in Housing in India as at 31.3.1970.

i) Loans on Mortgage of Property	Rs. 30,09.84 lakhs
ii) Loans to State Governments for Housing Schemes	Rs. 113,99.79 lakhs
iii) Loans to Co-operatives and other authorities for financing Housing	Rs. 63,57.47 lakhs
iv) House Property and Land	Rs. 37,42.96 lakhs
	<u>Rs. 245,10.06 lakhs</u>

#### 4. L.I.C. schemes for boosting housing activity

The different schemes under which the Corporation has extended its activities in the field of housing development for the people are detailed as follows in the following paragraphs:

#### 4.1 Mortgage Loans:

4.1.1 Property mortgage loan has been the oldest form of investment in housing followed by the Insurance Companies. Corporation inherited a large number of mortgages of properties throughout the country. As on the date of nationalisation the value of these mortgages came to Rs. 2.66 crores. Unfortunately a large number of these loans were defective, in that either the security of the property was inadequate or the titles were not clear; titles were not properly investigated, defective titles were accepted or valuation was incorrectly exaggerated. On nationalisation, the Corporation had first to take steps to regularise all these defective titles and writing off fraudulent mortgages. Initially therefore for some time, the Corporation did not take interest in this programme. However, the property mortgage scheme was started afresh by the Corporation from the year 1964 at 5 centres.

4.1.2 Under this Scheme, the Corporation grants loans against security by way of first mortgage of properties to the maximum extent of 50% of the value of the property with interest payable at the rate of 8½%. Previously, it used to be 9% with a rebate of 1% for prompt payment of interest. The loan is granted upto a maximum amount of Rs. 5 lakhs. The Corporation has gradually extended the scheme to 57 centres spread throughout the country with a view to seeing that all important areas were given housing assistance under the scheme. Of these, 13 centres are in the southern zone. The Corporation shortly proposes to extend the Scheme at every centre where the Corporation has a Branch Office or Sub Office.

4.1.3 As at 31st March, 1970, the outstanding Mortgage loans in the southern region inherited by the corporation amounted to Rs. 8.58 lakhs while outstanding new mortgage loans granted by it after the recommencement of the scheme amounted to Rs. 667.08 lakhs. The total outstanding new mortgage loans amounted to Rs. 2798.30 lakhs in the southern zone thereby having a share of 23.8%. Table II gives the amount of mortgage loans outstanding, zone-wise as at 31st March, 1970.

Table II: Amount of Mortgage Loans Outstanding in India, Zone-wise as at 31.3.1970

<u>Zone</u>	<u>Number</u>	<u>Amount in Lakhs Rupees.</u>
Northern	3,069	1,013.94
Central	801	201.94
Eastern	1,210	484.63
Southern	2,372	675.66
Western	804	633.67
Total:	<u>8,256</u>	<u>3,009.84</u>

## 4.2 Own Your Home Scheme

4.2.1 While the property mortgage scheme was started with a view to helping the public in general, the Corporation decided that it should specifically help its own policyholders in this field better as they could give additional collateral security of their policies. It was observed that such a scheme would improve the image of the Corporation, justify its socio-economic objective, increase the business. In 1964, therefore, the Corporation brought forth the Own Your Home Scheme. Under it at a reasonable rate of interest of 7½%, a policyholder today can secure a loan to the extent of 66½rd to 80% of the value of the property against the mortgage of the property and additional security of the policy or policies on his own life having sum assured, 90% of which would be equal to the loan amount to be sanctioned. Under the OYH Scheme, as popularly known, the quantum of loan that can be granted is minimum Rs.10,000 and maximum Rs.1 lakh. However, for extension to an existing house the minimum amount for which loan can be granted is Rs.7,500/-. One of the important conditions of this Scheme is that the loan can be granted specifically for constructing residential houses for one's own use.

4.2.2 While the Scheme came into operation in 1964 at 75 centres, it was extended by 31st March, 1970 to 157 centres (of which 44 centres are in South zone) covering all the cities and towns in India having a population of one lakh and above and some developing centres with less population. The Scheme, however, now is in operation at 410 centres including those where the corporation has a Branch or a sub Office and practically covers all towns with a population of 10,000 and over.

4.2.3 The total number of centres in South zone comprising the States of Tamil Nadu, Mysore, Andhra Pradesh and Kerala today comes to 133.

## 4.3. Housing Co-operatives

4.3.1 The Corporation grants loans to co-operative Housing Societies throughout India. The loans are granted through the State co-operative Housing Finance Societies (ApeX Societies) and not directly. This is done with a view to minimising its responsibility in checking up the status of housing co-operatives and dealing with a large number of such co-operatives individually. It also grants loans to Co-operative Societies of employees of Public Limited Companies, provided the Company concerned gives guarantee about regular repayment of interest and principal.

4.3.2 As will be evident from Table III loans to the extent of Rs. 63,57.47 lakhs were outstanding as at 31st March, 1970 (in the South zone it being 11.7% of total outstanding loans) to Co-operatives and other Authorities for financing Housing Co-operatives.

Table III: Loans to Co-operatives and other authorities for Financing Housing Co-operatives, Outstanding as at 31.3.1970

<u>Zone</u>	<u>Amount in Lakhs</u>	<u>Percentage of Total</u>
Northern	-	-
Central	Rs. 30.40	0.5
Eastern	Rs. 50.00	0.8
Western	55,33.61	87.0
Southern	7,43.46	11.7
<b>Total</b>	<u>63,57.47</u>	<u>100.0</u>

4.3.3 The Corporation also grants loans to co-operative Housing Societies formed by its own employees at as low a rate of interest as 4½%. One Hundred Societies consisting of 3,765 employee members have taken advantage of this Scheme and have been sanctioned loans totalling Rs.553.26 lakhs as at 31st March, 1970. In southern Zone, 22 Societies formed by employees have been sanctioned loans amounting to Rs.143.25 lakhs.

#### 4.4 Government Housing Schemes.

4.4.1 The Corporation has been providing funds to various State Governments in their house building activities. State Governments have taken advantage of the scheme for Middle Income Housing Scheme, Rental Housing Scheme, Low Income Group Housing Scheme, Village Housing Scheme, Plantation Labour Housing Scheme and Land acquisition and Development Scheme.

4.4.2 Table IV below gives Zonewise particulars of loans to State Governments for their Housing Schemes, outstanding as at 31st March, 1970. It will be seen from there that over 33% of the total loans stand against the names of states in the Southern Zone, being the highest amongst all the zones. It may be mentioned that use of these loans by the State Governments depends upon the efficiency in the formulation and execution of their respective housing programmes and LIC's investment there in each State depends upon the demand generated by the state governments. It is for the state Governments concerned that a greater demand is put and the funds available are properly and fully utilised in time.



Table IV : zonewise Particulars of Loans to State Governments for Housing Schemes, Outstanding as at 31-3-1970.

Zone	State	Amount of Loan Outstanding (In Lakhs of Rupees)
Northern	Delhi	2,88.00
	Haryana	1,45.33
	Jammu & Kashmir	1,41.61
	Punjab	8,56.03
	Rajasthan	6,98.74
		21,29.71
Central	Madhya Pradesh	6,21.62
	Uttar Pradesh	7,92.47
		14,14.09
Eastern	Assam	1,16.44
	Bihar	5,84.70
	Orissa	8,31.93
	W. Bengal	10,24.63
		25,57.75
Southern	Andhra Pradesh	10,29.37
	Kerala	4,39.43
	Mysore	9,49.60
	Tamil Nadu	13,85.94
		36,04.39
Western	Gujarat	3,56.49
	Maharashtra	11,37.36
		14,93.85
Total:		113,99.79

4.5 Loans to Public Companies for Housing.

Besides granting loans to Co-operative Housing societies of employees of Public Limited Companies, the Corporation grants loans to Public Limited Companies themselves for the purpose of providing housing to their employees. It is unfortunate that very few Public Companies have taken advantage of this scheme. It should be in their interest to take advantage of this scheme, the rate of interest being 8½%, as that would enable them to spare their employees, great benefit that an employer can grant to its employees.

#### 4.6 Individual Employees Housing Scheme.

The Corporation has not merely adopted the scheme for housing finance for its employees through the Co-operative Housing movement but has gone a step further in granting loans to employees individually throughout the country at as low a rate of interest as 5% for purchase of construction of houses. As at 31st March, 1970, 554 individual employees were sanctioned loans amounting Rs. 85.63 lakhs under the Scheme. Of these, 22 applications were sanctioned loans totalling to Rs. 33.21 lakhs.

#### 4.7 Direct Investment in Housing

Excepting putting up residential houses for its employees and housing for its offices at various centres in the country, the LIC had not till recently taken any step in putting up a scheme for direct construction of houses on commercial basis. However, it has now accepted the principle of developing housing colonies, primarily for its policyholders. According to it would develop some of the lands owned by it or even purchase land at some important centres, develop it and construct houses or flats to be sold on hire purchase basis to its policyholders on reasonable terms, either directly or through co-operative societies to be formed of the tenant owners. The first such project has been undertaken at Bombay in the area called Vallabh Nagar at Borivli, one of the suburbs of Bombay. About 4,000 tenements in a self-sufficient townships are going to be constructed in the course of next three years with modern amenities and pleasant environment. The tenements will be constructed to serve the needs of middle income and low income groups of people. The project is expected to cost about 50 crores.

4.8 The Corporation has also decided to undertake this activity on a phased basis even at other centres where land would be easily available and need for housing is acute, with a view to seeing that its various housing loans schemes are popularised and taken full advantage of by the public. Corporation has been continually studying the terms and conditions of its scheme and procedures to make them popular and taking necessary steps to bring these schemes to the notice of the public.

#### 5. conclusions

The need for urban housing is great. The shortage is acute. The task is stupendous and the country's resources meagre unless the problem is tackled on a war footing. As a major financial institution, the Life Insurance Corporation is aware of its obligation and is prepared to play its role in fulfilment of one of the objectives of nationalisation.

It has plans to invest about Rs.70 crores in housing this year. Allocation to State Governments for housing has been raised from Rs.14 to Rs.21 Crores. It has embarked on the activity of developing housing colonies for the people and has committed itself to allocate every year a Crore of Rupees for its own Staff Housing. It is to be hoped that its efforts and its investments in housing will alleviate the difficulties of the people.

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## A D D E N D U M

1. On page 3, para 3.2 third line the words "consistent with the security of the investment" to be added after the word "policyholder".
2. On page 3 para 3.3, twelfth line, the words "and two or three had Housing Schemes" to be added after the word "mortgages".
3. On page 4, para 4.1, eleventh line the words "limiting off" to be replaced by "taking steps to recover pension on".
4. On page 4, para 4.2 twelfth line, the words "and in other centres where there is a demand" to be added at the end after the word "Sub Office".
5. On page 9, para 5 ninth line, the words "thus fulfilling a social need" to be added after 'difficulties of the people'.

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A note on role of nationalized banks for financing housing and building activity

by

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(Deptt. of Banking.)  
New Delhi.

The commercial banks do not have any uniform scheme for financial incentives for stepping up regional housing & building activity particularly in Southern Region. However, Bank of Baroda has a scheme to advance a loan upto Rs. 5000/- and 25,000/- to individuals for renovation and construction of houses respectively. The loan is sanctioned against mortgage of the land and the house constructed thereon, assignment of life insurance policy of equivalent amount, demand promote etc. The Bank charges interest at the rate of  $9\frac{1}{2}\%$  per annum. The loan for renovation of the house is repayable in 24 monthly instalments while the loan for construction of the house is to be repaid in 10 years in equal monthly instalments.

2. The United Commercial Bank and Syndicate Bank have also formulated such schemes wherein an individual is motivated to save regularly over a number of years to avail bank loan for the purchase or construction of his house. The salient features of their schemes are as follows:-

i) The United Commercial Bank has a 'Housing Recurring Deposit Scheme' under which a person having a regular source of income has to open a special recurring deposit account and deposit Rs. 50/- to Rs. 1000/-

in multiple of Rs. 50/- per month for a period of 48, 60, 72 or 84 months. The Bank will advance the loan equal to twice the amount of the total balance due to him under the recurring deposit but subject to a maximum of 60% of the value of the house purchased. The loan is repayable in 60, 72, 84, 90 (or 96) months depending upon the period for which the recurring deposit was originally made.

ii) The Syndicate Bank advances loans for the purchase of built-up houses under the 'Triple loan facility' to saving bank depositors upto 5 times their average saving bank balance for the past 24 months. The maximum loan under this scheme is limited to Rs. 10,000/- with a collateral of the house as security with 50% margin (of the value of the house). The loan is repayable in 60 monthly instalments.

3. Incidentally it may be mentioned that a Housing and Urban Development Finance Corporation Private Ltd. has been registered as a Government Company on the 25th April, 1970 under the administrative control of the Ministry of Health, Family Planning & Works, Housing & Urban Development and that it is in a position now to consider projects for financing in the following order of priority:-

- (i) Projects for construction of houses;
- (ii) Projects for development of land, both for sale of plots as well as for construction of houses;
- (iii) Projects for acquisition and development of land for sale for commercial-cum-housing purposes.

## State Bank of India

Under section 33(XIXC) of the State Bank of India Act, co-operative housing societies formed exclusively by members of our staff for construction of houses are financed by the Bank, the quantum of finance being restricted to specified limits depending on the town/city where the houses are to be constructed, the cost of construction etc. The loans are repayable within a maximum period of 20 years, the monthly instalments being deducted from the salaries of the staff on the strength of an irrevocable letter of undertaking obtained from them. Our experience has shown that there is a growing awareness among the members of the staff of the facilities offered by the Bank, and a good percentage of the members of our staff have availed of this facility.

# Incidence of Taxation imposed by Local Bodies on Building Materials

by

Shri V.S. Subhiah,  
Secretary, Labour Department,  
Govt. of Tamil Nadu, Madras.

The paper deals with type of taxes imposed by local bodies on building materials. The analysis of tax structure shows incidence of taxation on essential materials on a building costing Rs.96,000 was nearly Rs.3,000. To reduce construction cost, the State Government have exempted building materials tax liability to allottees of houses sites from Tamil Nadu Housing Board.

## 1. Introduction

1.1 It is quite well known that the cost of construction of buildings has been going up considerably year after year and that there has been a marked increase in the cost during the last decade. Many attempts are being made to bring down the cost of these buildings by adopting cheaper designs and trying to discover and produce new building materials which would prove more economical than the conventional materials we generally go in for. For instance, attempts have been made to replace bricks with soil cement blocks, hollow blocks and also to produce Cellular Concrete blocks, on a mass scale. Recourse is also being made to prefabricate various units required for the house construction.

1.2 As a step in this direction, a pre-fabricated Housing Factory has been set up at Delhi which make pre-cast slabs and wall panels. There is also a proposal to set up a similar one in Madras. The construction of the factory for the manufacture of cellular concrete blocks is in rapid progress at Ennore, near Madras by the Tamil Nadu Housing Board. This factory is expected to go into production towards the end of 1971. This factory will produce load-bearing blocks for the walls and also roof slabs. The weight of the concrete will be about 1/3 or less than the usual conventional concrete and will be easy to use. The use of such light weight materials reduces the cost of other

Contd....2



works such as foundation etc. producing over all economy of the cost of the building construction.

1.3 Whatever efforts we may take to reduce the cost of materials or in adopting more economical designs, it is quite well known that the cost of all the building materials is going up year after year and this increase in the cost is due to the fact that the cost of living also has gone up generally and this has resulted in the cost of materials in the manufacture of which labour is involved. There has also been an increase in the cost of building activity in the whole of India and particularly in Tamil Nadu, with the result, the demand of building materials have gone up considerably.

2. Type of Local taxes on building materials: The cost of building materials has also increased due to the imposition of various taxes from the raw material stage till the time the manufactured material reaches the consumer. In the State of Tamil Nadu, sales tax only is imposed on the building materials. According to the Tamil Nadu General Sales Tax Act, 1959 taxes are levied on almost all the materials which are used for the building construction viz., bricks, cement, steel, window and door frames, glass, paints and varnishes, G.I. Pipes, Sanitary wares and A.C. Sheets. The extent of sales tax levied is given in Table-1.

Table 1: Sales Tax on building materials

<u>Building materials</u>	<u>Sales tax</u>
Bricks	3%
Cement	7%
Steel	5%
A.C. Sheets	5%
Timber T.W.	4%
Doors and Windows assembled	6%
Glass	3%
Varnish and paint	4%

Generally taxation on cement, steel, A.C. Sheet and Timber is quite high. Cement and steel form a major portion of the cost of the building.

3. Impact of local tax on cost of building and taxes:

For the purpose of the analysis, I am taking a three storeyed block of 18 tenements under Slum Clearance work. The taxes on the essential building materials are given in the Annex. While the entire cost of the building is about Rs.96,000, the taxes on essential materials alone go to Rs.2,900 to 3,000. This is fairly a sizeable amount. Considering the acute housing shortage and also to give a greater incentive for housing activity, it is suggested that the essential building materials may be exempted from taxes for some determined period.

4. Incentives by State Government

4.1 Tamil Nadu Government had as early as 1946, thought about the development of Madras City and suburbs and also about the possible housing requirements of the future and constituted the City Improvement Trust to acquire available vacant areas in the City, develop them by forming roads, laying the sewerage system, providing drinking water supply and to plot out these areas and sell them to the public at a 'No loss - no Profit' basis. The City Improvement Trust has been converted into that of a Housing Board and it functions as an autonomous body for all purposes. The policy of the Tamil Nadu Housing Board also is to allot plots/houses to the allottees on a 'No profit - No loss' basis. Further, in respect of the development of plots and construction of buildings, the Housing Board is charging only 12½% as centage charges to cover expenses on establishment as against 15½% levied by the P.W.D. Thus the Govt. of Tamil Nadu have helped to achieve the object of reducing the cost of land and house which would have been otherwise on the high side.

4.2 The Government of Tamil Nadu have also exempted, in 1967 the sale of building materials by the Tamil Nadu Housing Board to the allottees of houses, sites etc. from liability to tax under M.G.S.T. Act, 1959. Similar exemption if given to other building materials will help to reduce the cost of the building construction to a considerable extent.

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A N N E X U R E

ANALYSIS OF A THREE STOREYED (18 tenements) FOR SLUM CLEARANCE BOARD

Building cost Rs.96,000/-

Building materials	Tax for materials	Quantities in a building	Cost excluding sales tax	Total cost of building.	Amount of tax	% of total cost	for 3 crores tax	REMARKS
1.	2.	3.	4	5.	6.	7.	8.	9.
			Rs.	Rs.		Rs.	1,43,400	
Bricks	3%	210511 Nos.	15,187	96,000	469	0.490		
Cement	7%	1512 Bags	14,756	"	1,100	1.16	3,46,800	
Steel	5%	9.7 M.T.	12,038	"	633	0.66	1,97,700	Generally the tax for cement steel and timber is high.
Doors and Windows	6%	1430 Sq.ft.	8,728	"	557	0.60	1,74,000	
Glass	3%	300 Sq.ft.	291	"	9	0.011	2,820	
Paints and Varnishes	4%	4500 "	1,080	"	45	0.05	14,100	
G.I. Pipes	3%	L.S.	500	"	23	0.025	6,900	
Sanitary ware	4%	L.S.	1,440	"	60	0.063	18,750	
A.C. Sheet	5%	100 Sq.ft.	103	"	8	0.008	2,520	
					2914		9,06,990	

# Rates, Taxes and Return on investment from housing in Urban Areas.

by  
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## Summary

The paper deals with various types of taxes levied on housing in urban areas by local bodies and the Central Government and makes comparative study of taxes levied by various local bodies in India. The author feels that present rate of taxation on urban housing is not detrimental to housing supply.

### 1. Introduction

Urban Housing like any other investment generates income. In the case of Housing, in addition to the profit the builder makes at the time of construction and to the return the Owner gets during the service life of the property, direct taxes are levied by the local bodies and by some of the state governments. The Union Government does not tax real estate directly, however, some of the owners of real estate have to pay Income-tax, Capital Gains-tax, Wealth-tax, Gift-tax, and Estate Duty. The purpose of this article is to give a general idea of the rates and taxes levied on urban real estate housing and the return which investors can expect on their capital.

### 2. Object of local taxes on housing.

2.1 For the general welfare of the people and for day-to-day administration, every local body needs money which is partly raised from the public by way of taxes which are known as "Rates". Broadly speaking, a local government "rate" has the following four objectives ;

- i) primarily to obtain revenue for financing of local government services;
- ii) to acquire for the community some part of the unearned increment in values (which accrue to the owners by reason, inter alia, of the activities of the local body);
- iii) to foster and encourage development;
- iv) as a corollary of (i), to make payment in some measure, but not necessarily proportionately, for services rendered.

2.2 Of these four objectives, the first is the most significant. (To what extent these objectives are actually being achieved in practice by "Rating" authorities in our country; outside the scope of this article). "Rates" can be calculated

- (i) improved value of the property/ Market value of the property, taking into account the value of land as well as value of structures standing on it,
- ii) unimproved value / site value of the property, i.e., market value of the land alone without taking into account the value of structures standing on the land; and
- iii) assessed annual value / annual letting value / gross value of the property.

2.3 In some of the countries of the world, local bodies are authorised to levy "Rates" on annual values or site values or combination of both sets of values at pre-determined ratios, the composite "Rate" ratios varying over very wide limits. Even though, it is recognised that it is impossible to devise a system of "Rating" which would ensure that the tax burden fall absolutely fairly upon the shoulders of all persons subject to the "rate", protagonists of each of the above four systems claim specific advantages over the others; for example, it is claimed that "rating" based upon "site values" gives owners incentive to put land to its highest and best possible use. In our country, however, municipal "rates" are mostly based upon annual letting value, which is calculated with reference to the rent which the hereditament can reasonably be expected to be let from year to year, if the tenant undertook to pay the usual tenant's "Rates" and taxes and if the landlord undertook to bear the cost of repairs, insurance and other expenses if any, necessary to maintain the hereditament in a state fit to command the rent. In most of the jurisdictions, from this annual rent, some deduction is allowed towards annual repairs and a further reduction in the case of self-occupied property. Each municipality has its own taxation rates, even though the basis is "annual letting value." Some jurisdictions have uniform rates of taxes irrespective of rental range whereas some follow graduated rates, the rate increasing progressively with the rent. Some municipalities have recently started basing their "Rates" on "Improved Values". Annexure I gives the taxation levels of a few municipal corporations in our country.

### 3. Central taxes on housing.

As mentioned earlier, urban housing like any other real estate is taxed, in addition to local bodies, by the Union Government by way of Income-tax, Capital Gains-tax, Wealth-tax, Gift-tax and Estate duty. The method of calculating the taxable amounts, the rates of tax etc. are given in the various acts like the Income-tax Act, Wealth-tax Act. etc.. The annual value (less the outgoings) of a house in an urban area like any other real estate is chargeable to income-tax under the head "Income from house property", except in the case of such portions of property which the assessee may occupy for purpose of business or profession carried on by him the profits of which are chargeable to income-tax. Similarly, when real estate passes from one owner to another, the profit or gain arising from such transfer of capital asset effected in the previous year is chargeable to income-tax under the head "Capital gains" and shall be deemed to be the income of the previous year in which the transfer took place. This is in addition to the Stamp Duty paid on Conveyance deeds. Wealth-tax is payable yearly on the "Net-wealth" on the corresponding Valuation date, "Net wealth" being defined as "the amount by which the aggregate value of all assets, wherever located, belonging to the assessee on the valuation date is in excess of the aggregate value of all the debts owned by the assessee on the valuation date". All real estate owned by the assessee except to the extent of exemptions given in the Wealth-tax Act has to be included in the assets. Gift-tax is payable for every assessment year in respect of gifts if any, made by a person during the previous year and if a real estate is gifted away, it attracts the provisions of the Gift-tax Act. Similarly, Estate Duty is levied on the principal value of the property passing on the death of the deceased and for working out this principal value, all the chargeable properties including real estates have to be aggregated so as to form one Estate and Estate Duty is calculated at the rate applicable in respect of the principal value. The current rates of Wealth-tax, Gift-tax and Estate Duty are given in Annexures II, III and IV. These are to be read with the relevant Acts. It will be seen from Annexure II that real estates situated in urban areas attract additional wealth-tax.

### 4. Effect of taxation on housing supply.

It is argued that the incidence of the above "Rates and Taxes" is heavy and regulatory legislations like Rent Control are preventing adequate investments in housing. The general impression that in respect of properties which are under Rent Control Act, the market value of such properties is very low has been examined by the Indian Institute of Public Administration, which at the instance of the National Buildings Organisation, conducted a detailed survey of the effect of rent control on the supply of private housing accommodation in Delhi. It summarised the effect of Rent Control as follows :



"In India, on the other hand the situation is of extreme confusion and the majority of houses liable to Rent control escap law only because the particular cases have not been brought to the rent control courts. Even houses on which statutory rents have been fixed escape the awards after the departure of the existing tenants. Until the new tenants again refer the cases to the rent controllers, the landlords can conveniently suppress the outcome of the previous awards. What all this implies is simply that, the houses actually subject to the rent control are a mere fraction of the houses potentially subject to the statutory restrictions. This system is almost unbelievably naive, and the conclusion of most observers of the situation is that in India rent control legislations are not really meant to be administered."

This Institute also came to the conclusion that the average rate of return on housing in Delhi is about twice the yield on central-government securities. These conclusions drawn by an independent Institute from a detailed survey conducted by it on houses constructed during 1951-55 from areas covered by the Rent Control Act in Delhi show that return on investment in housing is definitely an attractive proposition in spite of the "Rates and Taxes" levied on the same and restrictions imposed by the relevant Rent Control Acts. From the wealth-tax returns submitted by the accountable persons, it is seen that in most of the cases they are adopting a capitalization percentage which is definitely much higher than return from gilt-edged securities, thus, lending support to the above conclusions of the Institute. While comparing return from urban housing with return from gilt-edged securities, two important aspects have to be borne in mind, namely, the escalating land values in urban areas and the continuous erosion in the purchasing power of the Rupee. If these two aspects are taken into account, investment in real estate has been certainly an attractive proposition in our country.

Contd.....5/-.

annexure No. I.

Table showing the taxes levied by some of the Important Municipal Corporations.

.....

Sl. No. Name of the Corporation.	Year during which the rates shown were collected	How the rateable value is calculated.	RATE OF TAX	
1.	2.	3.	4.	5.
1. Ahmedabad, Municipal Corporation.	1968-69	Gross Rent minus 10%	<u>Rateable Value - General</u> Rs. 1 to Rs. 500 - 12% Rs. 501 to Rs. 1000 - 15% Rs. 1001 to Rs. 2000 - 22% Rs. 2001 to Rs. 3000 - 23% Rs. 3001 to Rs. 5000 - 23% Rs. 5001 and above - 30%	
			In addition, water tax is payable at 2 1/2%	
2. Calcutta Municipal Corporation.	1969-70	-do-	<u>Annual Value-Consolidated</u> Less than Rs. 1000 - 15% Rs. 1000 to Rs. 3000 - 17% Rs. 3001 to Rs. 12000 - 20% Rs. 12001 and above - 25%	
			Where annual value exceeds Rs. 3000/-, the "Rate" may be increased to 23% with the approval of State Government.	
3. Municipal Corporation of Greater Bombay	-do-	Rateable value for annual rent of Rs. 10000/- is Rs. 8395/-	General tax - 1% Water tax - 1/2% Halalkhore tax - 1/2% Total - 2 1/2%	
			Plus Education Cess at following rates :	
			RV of Re. 1 to Rs. 74 - 1% RV of Rs. 75 to Rs. 299 - 1% RV of Rs. 300 and above - 1%	
4. Delhi Municipal Corporation.	-do-	-----	<u>For urban areas</u> <u>Rateable value - General</u> Up to Rs. 1800 - 10% Rs. 1801 to Rs. 3000 - 12% Rs. 3001 to Rs. 12,000 - 15%	

1.	2.	3.	3.	4.	5.
					Rs. 12001 to Rs. 20000 - 11
					Rs. 20001 to Rs. 40000 - 12
					Rs. 40001 to Rs. 1,00,000 - 13
					Rs. 1,00,001 and above - 20
					Fire and scavenging tax Payable in addition at 1%
					Commercial premises are charged at higher rates.
5.	Nagar Mahapalika, Kanpur.	1969-70	Gross Rent	Annual Gross Rental =	Rate of tax
					Upto Rs. 180 - 11
					Rs. 181 to Rs. 5000 - 12
					Rs. 5001 to Rs. 10000 - 13
					Rs. 10001 to Rs. 15000 - 20
					Rs. 15001 and above - 22
					The above rates include as Water tax.
6.	Lucknow Muni- cipal Corpora- tion.	-do-	Gross Rent.	Annual Gross Rental	Rate of tax
					up to Rs. 899 - 20
					Rs. 900 & above - 25
					The above rates include water tax and 2% as sewer tax.
7.	Madras Corporation.	-do-	Gross Rent minus 10%	Rateable value.	Rate of tax.
					up to Rs. 500 - 19
					Rs. 501 to Rs. 1000 - 23
					Rs. 1001 to Rs. 7000 - 25
					Rs. 7001 and above - 30

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Annexure No. II  
Rates of WEALTH --- TAX

- | (1) | In the case of every individual :   | Rate of tax  |
|-----|---|--|
| (a) | where the net wealth does not exceed Rs. 1,00,000                                       | Nil;   |
| (b) | where the net wealth exceeds Rs. 1,00,000 but does not exceed Rs. 5,00,000.             | 1 per cent. of the amount by which the net wealth exceeds Rs. 1,00,000.                        |
| (c) | where the net wealth exceeds Rs. 5,00,000 but does not exceed Rs. 10,00,000.            | Rs. 4,000 plus 3 per cent. of the amount by which the net wealth exceeds Rs. 5,00,000;         |
| (d) | where the net wealth exceeds Rs. 10,00,000 but does not exceed Rs. 15,00,000.           | Rs. 14,000 plus 3 per cent. of the amount by which the net wealth exceeds Rs. 10,00,000;       |
| (e) | where the net wealth exceeds Rs. 15,00,000 but does not exceed <u>by</u> Rs. 20,00,000. | Rs. 29,000 plus 4 per cent. of the amount <u>by</u> which the net wealth exceeds Rs. 15,00,000 |
| (f) | where the net wealth exceeds Rs. 20,00,000.   | Rs. 49,000 plus 5 per cent. of the amount by which the net wealth exceeds Rs. 20,00,000.       |
| (2) | In the case of every Hindu undivided family -   |  |
|     |   | Rate of tax  |
| (a) | where the net wealth does not exceed Rs. 2,00,000                                       | Nil;   |
| (b) | where the net wealth exceeds Rs. 2,00,000 but does not exceed Rs. 5,00,000.             | 1 per cent. of the amount by which the net wealth exceeds Rs. 2,00,000;                        |
| (c) | where the net wealth exceeds Rs. 5,00,000 but does not exceed Rs. 10,00,000.            | Rs. 3,000 plus 2 per cent. of the amount by which the net wealth exceeds Rs. 5,00,000;         |
| (d) | where the net wealth exceeds Rs. 10,00,000 but does not exceed Rs. 15,00,000.           | Rs. 13,000 plus 3 per cent. of the amount by which the net wealth exceeds Rs. 10,00,000.       |

- (e) where the net wealth exceeds Rs. 10,00,000 but does not exceed Rs. 20,00,000. Rs. 23,000 plus 4 per cent. the amount by which the net wealth exceeds Rs. 15,00,000;
- (f) where the net wealth exceeds Rs. 20,00,000 Rs. 48,000 plus 5 per cent. the amount by which the net wealth exceeds Rs. 20,00,000

(3) In addition, in the case of every individual and Hindu undivided family, where the net wealth of the individual or Hindu undivided family includes the value of any asset, being building or land (other than business premises) or any right in such building or land, situated in an urban area (such asset being hereafter in this Part referred to as urban asset);-

Rate of tax

- (a) where the total value of urban assets determined in accordance with the rules in Paragraph B does not exceed Rs. 5,00,000. Nil;
- (b) where the total value of urban asset determined in accordance with the rules in Paragraph B exceeds Rs. 5,00,000 but does not exceed Rs. 10,00,000. 5 per cent. of the amount which such total value exceeds Rs. 5,00,000;
- (c) where the total value of urban assets determined in accordance with the rules in Paragraph B exceeds Rs. 10,00,000. Rs. 25,000 plus 7 per cent. of the amount by which such total value exceeds Rs. 10,00,000.

N. B. Please read this schedule along with relevant Act.

Contd.....9/-

Annexure III

RATES OF GIFT-TAX

- |     |  |   |
|-----|--|---|
| (1) | where the value of all taxable gifts does not exceed Rs. 20,000                              | 5 per cent of the value of such gifts;  |
| (2) | where the value of all taxable gifts exceeds Rs. 20,000 but does not exceed Rs. 50,000.      | Rs. 1,000 plus 10 per cent of the amount by which the value of such gifts exceeds Rs. 20,000;       |
| (3) | where the value of all taxable gifts exceeds Rs. 50,000 but does not exceed Rs. 1,00,000.    | Rs. 4,000 plus 15 per cent of the amount by which the value of such gifts exceeds Rs. 50,000;       |
| (4) | where the value of all taxable gifts exceeds Rs. 1,00,000 but does not exceed Rs. 2,00,000.  | Rs. 11,500 plus 20 per cent of the amount by which the value of such gifts exceeds Rs. 1,00,000;    |
| (5) | where the value of all taxable gifts exceeds Rs. 2,00,000 but does not exceed Rs. 5,00,000.  | Rs. 31,500 plus 25 per cent of the amount by which the value of such gifts exceeds Rs. 2,00,000;    |
| (6) | where the value of all taxable gifts exceeds Rs. 5,00,000 but does not exceed Rs. 10,00,000  | Rs. 1,06,500 plus 30 per cent of the amount by which the value of such gifts exceeds Rs. 5,00,000;  |
| (7) | where the value of all taxable gifts exceeds Rs. 10,00,000 but does not exceed Rs. 15,00,000 | Rs. 2,56,500 plus 40 per cent of the amount by which the value of such gifts exceeds Rs. 10,00,000; |
| (8) | where the value of all taxable gifts exceeds Rs. 15,00,000 but does not exceed Rs. 20,00,000 | Rs. 4,56,500 plus 50 per cent of the amount by which the value of such gifts exceeds Rs. 15,00,000; |
| (9) | where the value of all taxable gifts exceeds Rs. 20,00,000                                   | Rs. 7,06,500 plus 75 per cent of the amount by which the value of such gifts exceeds Rs. 20,00,000; |

N.B. Please read this schedule along with the relevant Act.

- 10 -  
RATES OF ESTATE DUTY

In the case of any property which passes or is deemed to pass on the death of the deceased --

- |     |   |   |
|-----|---|---|
| (1) | where the principal value of the estate Nil; does not exceed Rs. 50,000.                        |   |
| (2) | where the principal value of the estate exceeds Rs. 50,000 but does not exceed Rs. 1,00,000.    | 4 per cent. of the amount by which the principal value of the estate exceeds Rs. 50,000.                      |
| (3) | where the principal value of the estate exceeds Rs. 1,00,000 but does not exceed Rs. 2,00,000.  | Rs. 2,000 plus 10 per cent of the amount by which the principal value of the estate exceeds Rs. 1,00,000;     |
| (4) | where the principal value of the estate exceeds Rs. 2,00,000 but does not exceed Rs. 3,50,000.  | Rs. 12,000 plus 15 per cent of the amount by which the principal value of the estate exceeds Rs. 2,00,000;    |
| (5) | where the principal value of the estate exceeds Rs. 3,50,000 but does not exceed Rs. 5,00,000.  | Rs. 34,500 plus 25 per cent of the amount by which the principal value of the estate exceeds Rs. 3,50,000;    |
| (6) | where the principal value of the estate exceeds Rs. 5,00,000 but does not exceed Rs. 10,00,000  | Rs. 72,000 plus 30 per cent of the amount by which the principal value of the estate exceeds Rs. 5,00,000;    |
| (7) | where the principal value of the estate exceeds Rs. 10,00,000 but does not exceed Rs. 15,00,000 | Rs. 2,22,000 plus 40 per cent of the amount by which the principal value of the estate exceeds Rs. 10,00,000; |
| (8) | where the principal value of the estate exceeds Rs. 15,00,000 but does not exceed Rs. 20,00,000 | Rs. 4,22,000 plus 50 per cent of the amount by which the principal value of the estate exceeds Rs. 15,00,000. |
| (9) | where the principal value of the estate exceeds Rs. 20,00,000                                   | Rs. 6,72,000 plus 35 per cent of the amount by which the principal value of the estate exceeds Rs. 20,00,000. |

N. B. Please read this schedule along with the relevant Act.

Housing and Building Activity in the Southern Region-  
With Special Reference to the Working of Rent Control  
Acts in Urban Areas.

by

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1.1 Scope of the Paper

This paper covers the Southern India, in respect of legal economics governing the production and supply of houses. The southern States of Andhra Pradesh, Mysore, Tamil Nadu and Kerala are not homogeneous economic areas, either in terms of population density or in terms of per capita real income. Before the partition of the Madras State into the present territories of Tamil Nadu and Andhra Pradesh, there was at least a continuous stream of migrants from Andhra Pradesh into Tamil Nadu. This mobility of population was arrested, except for restricted business purposes, after the separation of Andhra Pradesh. The purchase of property by the residents of one State in another State is not legally banned, but sociological and political considerations have operated as restraints on inter-regional mobility of capital. Hence the four territorial units comprising Southern India have to be studied from the standpoint of macro-economics as four distinct geo-economic units, if one attempts a study of factor movements and factor prices.

1.2 Economics of Legislation

In this enquiry into legal economics, however, the restraints are not pronounced. The legal practices devised by the Madras High Court have had considerable influence over a large part of the territory of Southern India. Each of these regions has densely populated urban centres though the city of Madras stands apart as the most urbanised city in the whole region. The importance of Rent Control Measure is of significance only in urban centres and essentially it is a problem affecting a small section of the population. It can be seen that those living in big towns and cities will cover not more than 11% of the total population in the region of this particular study, when we restrict our enquiry to Rent Controls.

Contd.....2/-.



### 1.3 Public Policy and Economic Theory

Working of the Rent control Acts is a matter of public policy. Normally rent being a payment for a factor produced there should be no restraint whatsoever on it so long as a number of people willing to pay rents is met without friction by the number of people prepared to supply housing and other building services at mutually agreed prices. The question becomes thorny only when there are disputes as to the rent levels, from the standpoint of tenants or landlords. The conflicts within this area of economic activity are not manifest in rural areas where both residential housing and agricultural sites are available at acceptable prices and rents. In the cities, however, the position is different and Rent Controls have operated with varying degrees of success.

1.31. The economic theory relevant to the discussion is of Prof. Lerner who argues that payment to any fixed factor has no economic purpose, because the supply cannot be increased. "The distinctive feature of rent as a payment" is according to him unnecessary.<sup>1</sup> The following cases which I have examined reveal the vexatious character of rent legislation as the landlords view it. And also from the tenant angle the provision of amenities has suffered neglect. The main beneficiaries were the few who obtained housing accommodation at concessional rents and the loss in the supply of housing occasioned during the period of enactment was not sufficiently compensated by the gains of the privileged class who had occupied the houses under the control. One should have statistics as to the alternative ways in which the tenants living under protection - whether they were Government servants or others - would have used their savings to construct their own buildings. If they had not obtained the shelter of the Rent Control Act, the claim for the revision of economic legislation, would have been more pressing. In the context of urban ceilings on land, there is a psychological climate which excludes private house construction. The money rate of interest would have corrected the levels of rents. The term interest, though, it is argued repeatedly as one applicable to only free or floating capital, "the income from investments is in the nature of a rent".<sup>2</sup> This view has permeated economic literature even in early writings of those like Sidgwick's Principles and Marshall's Principles.

1. Lerner, A. P.: Economics of Control; Principles of Welfare Economics. (New York, 1944), pp. 218
2. Dalton, H: Some Aspects of the Inequalities of Income in Modern Communities (London, 1935) p. 108
3. Marshall, A: The Principles of Economics, (London, 1948).

The analysis of rent with reference to different grades of land is equally applicable to housing since housing is not homogeneous depending as it does upon location and demand factors. There are negligible provisions in the Rent Control acts and property Taxation measures to give a differential treatment to this aspect.<sup>1</sup>

1.32 The economic argument against rent was most forcefully given by Marx,<sup>2</sup> who argued that the landed capitalist gave rise to the money capitalist and both of them obtained a kind of rentier income which is both unproductive and unnecessary from the standpoint of increases in factor supply. The basic principle of controls is that "from the point of view of society, some surplus is to be found in nearly all payments," to factors whose supply is fixed and such a surplus can be taxed to the extent of 100% without detriment to the national economy. This applies to all manufactured goods and instruments of production which have already been produced and could be used, whether any payment is paid or not. These goods and services cannot be withdrawn from the community and a measure of Maximum or Minimum price control or rent control derives its authority from the logic of the foregoing. This argument may appear to be superficial to the superficially informed in economics as something anti-capitalist. On the contrary is the practice of this theory in many instances. Under F. D. Roosevelt's regime in the United States the minimum prices of farm products and many steps have been taken in respect of raw materials purchases in Britain and India to ensure a minimum price control so that future supplies of certain products and services may not be curtailed in supply.

## 2.1 The beginnings of Rent Control measures:

The first serious attempt to control House Rents in Tamil Nadu may be traced to the Madras Buildings (Lease and Rent Control) Act 1946. The following observations were made at that time. "This Bill is an emergent measure. There is

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1. Robinson, Joan: Economics of Imperfect Competition (London, 1932) PP 133-135.

2. Shanmugasundaram, V: Reinterpretation of Karl Marx, Arthavignana, Vol. X, 1968, Number on 'Economic Growth of India: A Critique of Marxian Interpretation', pp. 553-570.

3. Lerner, A. P.: Economics of Control: Principles of Welfare Economics. (New York 1944) p. 273

scarcity of houses and there is exploitation of the situation by the landlords. It is necessary that there should be control of residential and non-residential buildings. Houses are vacant but they are not available. They are not leased at all unless people are prepared to offer three and four times the normal rent of the buildings."1 The Act was tenable for a period of two years in the first instance. But expediency of circumstances forced the hands of the Government and as a consequence the Act is still on the Statute Book of the state.

2.11 The Acts of 1946 and 1960

Subsequently the Madras Buildings (Lease and Rent Control) Act 1949 re-enacting the provisions of the 1946 Act was passed. The Government continued to control the leasing out of buildings by taking over vacant houses for the purpose of allotting them to their staff. This overemphasis on accommodation control is not visible in the Bombay and Bengal Acts which have no provision for accommodation control. In 1960, a comprehensive Act, Madras Buildings (Lease and Rent Control) Act 1960 was passed. The basic objectives were spelled out as - (i) the regulation of letting of residential and non-residential buildings; (ii) the control of rent of buildings, and (iii) the prevention of unreasonable eviction of tenants by the landlords. To that end Sections 3 and 4 of the Act govern the regulation of leasing and the prevention of unreasonable eviction. Section 4 pertains to rent control. Sections 5, 6 and 7 deal with the fixation of fair rent and the impact of such a fixation on the contractual relationship of the landlords and the tenants. Both the landlord and the tenant are empowered to apply to the Rent controller for the fixation of fair rent for a house.

2.12 Exemptions: Madras Act of 1960

Exemption from the application of the Act is granted to three categories:- (i) House fetching a monthly rental exceeding Rs. 250 in the case of residential<sup>2</sup> (ii) Houses the monthly rental of which is below Rs. 25/- (iii) Buildings completed after the date of commencement of the Act. viz. /and Rs. 400 in the case of non-residential buildings; <sup>3</sup>

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1. Madras Legislative Assembly Debates, Government of Madras, Madras 1946, Vol. XI p.530.  
2. The Madras Building (Lease & Rent Control) Act 1960. Sec. 30 (ii)  
3. Ibid, Sec. 30 (iii)

September 30, 1960. Again, with a view to softening the rigour or hardship in the working of the Act which is an emergency legislation Section 29 confers wide and unequivocal powers to the Government to exempt 'any building or class of buildings from all or any of the provisions of the Act', imposing conditions wherever called for. Similar exemptions regarding buildings of which the State Government are tenants; buildings owned by the Railways, Central Government, and Municipal Councils, had been notified under Section 13 of the Repealed Act of 1946.

2.13 Important Economic characteristics of the Madras Act of 1960, and the comparable Acts in Andhra Pradesh, Mysore & Kerala.

The Act defines building to include the lease of a house along with the furniture, fixtures, and fittings in addition to the garden, grounds and out-house. The Act applies to buildings let out for residential as well as non-residential purposes. The term 'rent' is comprehensive and includes all payments agreed to be made by the tenant in respect of the enjoyment of the building for all the amenities provided for the more beneficial and convenient enjoyment of the building. The duties devolving on the landlord may be classified under two broad heads of accommodation Control governed by Sections 3, 10, 12, 14, 15 & 17 and Rent Control regulated by Sections 4, 7, 8, 21, 22 and 23 of the Act. The landlord is also clothed with certain distinct rights including the power - (a) to evict tenants, (b) to let out his vacancy-notified house to any one of his choice, if he does not hear from the Controller for 10 days. The Act also confers a few rights<sup>2</sup> on the tenants, such as to apply for fixation of fair rent.

For the first time an attempt was made in the 1960 Act to fix the rents of buildings on a rational basis

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1. The Madras Buildings (Lease & Rent control) Act 1960. Section 3 (3)
  2. Ibid. Section 8 (i): Every tenant who makes a

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Section 8(i) - Foot Note continued;

payment on account of rent or advance shall be entitled to obtain a receipt in the prescribed form for the amount paid duly signed by the landlord or his authorized agent.

Section 9(i): Where the address of the landlord or his authorised agent is not known to the tenant, he may deposit the rent lawfully payable to the landlord in respect of the building, before the Controller in such a manner as may be prescribed, and continue to deposit any rent which may subsequently become due in respect of the building, before the Controller and in the same manner until the address of the landlord or his authorised agent becomes known to the tenant.

Section 4(I): The tenant has a right to apply for fixation of fair rent to the Rent Controller.

Section 15 (i): The tenant has a right to reoccupy the building vacated for the purpose of repairs, within 30 days from the date of completion of repairs.

"The idea is not merely to have a scientific basis but also to ensure a fair return on their property to the landlords. The Government are aware that some landlords have been getting rather a low return on their property". Therefore, a formula has been evolved for the fixation of fair rent under Section 4 of the Act. "This formula when put into operation will give substantial relief to owners of houses". The incentives designed to encourage the prospective house builders were introduced in the Act, viz. (1) all buildings constructed after October 1, 1960 and (2) Residential buildings with a monthly rental of less than Rs. 25/- or more than Rs. 250/- and non-residential buildings with a rental of less than Rs. 50/- and Rs. 400/- and above are excluded from the purview of the Rent Control Act. "The intention is that this relaxation would serve as an incentive for the intensification of the housebuilding activity which has to catch up with the abnormally high rate of growth of the urban population."

The basic factors that should guide the controller in arriving at the fair rent of a building are set out in Section 4. Viewing the Madras Act vis-a-vis the other States Acts in the Southern region, it is found that the basic objectives of all the acts are identical, viz., the regulation of the leasing of buildings, prevention of unreasonable eviction of tenants by landlords and the fixation of fair rent. Though the acts are intended mainly for the benefit of the tenant, they enjoin the tenants to strictly adhere to the statutory procedures. The Andhra Pradesh Act stipulates that expenditures on repairs, effected by the tenant, must not exceed 1/12 of the annual rent. According to the Madras Act the residential building cannot be converted into a non-residential building, without the written permission obtained from the controller.

## 2.14 Fixation of Fair Rent.

Although social and not individual justice is the aim of all the Four Statutes, a shade of subtle distinction is discernible in the matter of laying down procedures for fixation of fair rents. A landlord in Mysore State can apply for fixation of fair rent, if it has not been done, prior or after 1961 act. He is precluded from making a second application. In the case of Post-april 1947 houses, the fair rent freely fixed by the parties at the commencement of the act has been regarded as fair rent and a return of 10% on the investment has been deemed as fair rent in respect of buildings

In Kerala, the year of letting out is taken as the base year for the fixation of Fair Rents. Even so, the fair rent shall not exceed by more than 15% of the monthly rental, which forms the basis of house tax computation prevailing two years prior to the date of application. This has in practice, turned out to be a protection to the tenants, in cases where the Municipal Tax has been computed on rents lower than the actual rents collected by the landlords. In such cases, the tenants could refuse to pay the maximum.

### 3.1 Some legal disputes and economic implications.

The object of the Act is to prevent unreasonable evictions of tenants. It cannot be considered unreasonable, if the landlord wants to shift to his own premises, while he is in occupation of tenanted premises, over which he has no absolute right of possession, but only a right to regain his possession, and over which he has no control.<sup>1</sup> But from a legal finding as this, it appears how far owners of buildings, have to resort to round about methods of confirming their own privileges.

#### 3.11 What is a building (i) in Madras?

The definition of building is an inclusive definition, it should be given the meaning on interpretation which will achieve the purpose of the Act and should not receive any restricted meaning which would frustrate the very scheme or object underlying a beneficial or social legislation of this kind, and would also exclude practically a major portion of the buildings from the purview of the Act. Thus, a building under the Act will include buildings let for residential as well as non-residential purposes, and includes furniture, fittings and other amenities intended for the tenant's more beneficial enjoyment of the building. The term rent is comprehensive enough and very wide, and includes all payments agreed to be made by the tenant in respect of the enjoyment of the building and for the amenities provided for the more beneficial and convenient enjoyment of the building.

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1 Mysore House Rent and Accomodation Control Act (XIV of 1960) S. 3(3) (a) (ii) - by M. Padmanabha Shetty, V.K.P. Pappiah & Co. (1966) 2 S.C.A. 190 A.I.R. 1966 S.C. 1824 ("The Yearly Digest" 1966 Madras Law Journal, Madras-4, Col.1308.

2. Madras Buildings (Lease & Rent Control) Act (XVIII of 1960), (as amended by Madras Act XI of 1964) Preamble - ("The Yearly Digest" 1970 Madras Law Journal, Madras-4, Col.973.)

3.12 What is a building (ii) in Andhra Pradesh:

The definition of 'building' in Andhra Pradesh Rent Control Act includes portion of building as would be seen from 3.2(iii) of the Act. So that 3.10(3)(c) of the Act which a landlord cannot evict a tenant from a non-residential building if he requires it for residential purposes and if it is a residential building, he cannot evict a tenant if he requires it for non-residential purposes having regard to the definition of 'building' would prima facie apply to portions of residential and non-residential buildings. It is because of this that a separate provision had to be made in 3.10(c) (c). The object of this is that where the portion of a residential building in the occupation of the tenant, the landlord can always readjust his requirements by asking the tenant to vacate the portion in his possession, if he bona fide wishes that portion for his additional accommodation, whether for residential or non-residential purposes as the case may be.

3.13 Ownership:

Doubts have arisen if joint owners of property are as good as single owners. One of the two joint owners of property can file petition for the eviction of the tenant. There is nothing in the definition of landlord in sec. (3) (VI) which precludes a joint owner from being termed a landlord. He is much a landlord in respect of his share of the property as both of them are in respect of the whole of it.

3.14 reconstruction:

The reconstruction of buildings has taken place in the face of obstacles. When the landlord gives the intimation of vacancy and requests that the building should not be let to anyone, as the building requires reconstruction, and then

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1. Andhra Pradesh - Buildings (Lease, Rent and Eviction) Control Act (15 of 1960). "The Yearly Digest" 1968, Madras Law Journal, Madras-4, Col.1672.

2. Andhra Pradesh Buildings (Lease, Rent & Eviction) Control Act (AV of 1960), Damodaran Chetti V. Rammiah (1968) "Yearly Digest" 1968, Madras Law Journal, Col.1673.



this request is granted, the building is not leased to anyone. Hence the landlord is at liberty to reconstruct the buildings and neither the Controller nor the appellate authority have the right to fix the period within which the reconstruction has to be completed.<sup>1</sup> and only after the tenant has relented on the findings of the judgement.

### 3.15 Fair Rent:

Granting that premises is available for use, the fair rent is not always fair between a particular landlord and his tenant, considering their relative economic circumstances, or that which the law prescribes to be fair. The correct approach to fair rent fixation under the Act is social and not individual<sup>2</sup> justice. So, it would appear profitable not to own buildings.

### 4.1 Charitable Institutions and the operation of Rent Control Legislation.

Apart from individuals the charitable institutions have found their financial position considerably eroded on account of vexatious legal procedure in respect of rent collection. Persons who have occupied, several acres of land within a few yards of Mount Road - which is the central business area of the city of Madras - refuse to quit the site which has been given to individual tenants on a nominal rent of a few rupees.

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1. Mysore Rent Control Act (XII of 1961) Ss. 4 & 7(1)  
Dr. B. Ghah vs. Deputy Commissioner, Bangalore,  
"Yearly Digest", Madras Law Journal, Col. 1730.
  2. Kerala Building (Lease & Rent) Control Act  
(XVI of 1959). As amended by Act XXIV of  
1969. Devassy V. Joseph, 1970, "Yearly Digest", 1970,  
Madras Law Journal, Madras-4, Col. 2746.

and also refuse to buy the superstructure. The value of the land is about Rs. 5,40,000 at market value, and the rent on land pit paid by the tenants is between Rs. 160/- and Rs. 200/- as against a sum of Rs. 38,000 on long term bank deposit rates currently prevailing.<sup>1</sup> In these respects the protection given to tenants may not be said to be a measure to help the poor because in this case, the parties occupying the land are businessmen and rich money lenders who have taken shelter under the Tenants' protection Acts.

#### 4.1 Unfair Rent Practices.

Besides these unfair and low rents paid by tenants in buildings, there is another coconut garden of 32 acres in the fast developing residential area - Madhavakkam - with two big hospitals of the city adjoining the site. The ground value under alternative use as building site of this area would be about Rs. 60,00,000 and the market rate of interest on it could easily be Rs. 45,000 a year. As against this alternative income, a paltry sum of Rs. 2,650 a year is being paid to this charitable Trust. The accounts of the Trust are made public each year under the will of Pachi Yappa Mudaliar.<sup>2</sup> and yet what can the public or even the

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1 The situation is one of the many faced by the Pachi Yappa Trust Board at Madras, an Educational Charity Organisation, which has celebrated the 125th Anniversary in the year 1967-68. Had the proper rent been collected from these estates the money would have been well spent on social welfare and educational measures by the Charities. Had the State Government got proper income, had the Charities. In the process unearned income of some accidental owners decades ago has been accruing.

2. The Commemoration Day of the Charities of the Pachi Yappa Mudaliar has to be held in a Public Hall and the accounts have to be presented to the public on that day. These events take place each year. Yet, public opinion in India is not alert enough to live up to the wishes and hopes of the testators.

official Trustee of the Government of Madras do anything about it so long as the legal maze is so much a matter of conflicting economic purposes, and based on Sir Henry Maine's ideas of property and Hindu Law has touched only on the fringes during the last one hundred years by our law makers.

#### 4.12 Inadequate social good will:

If charitable bodies are to operate as the Custodians of social good will, and if they are to live not only upto the letter, but as well up to the spirit and good intentions which motivated those who bequeathed their entire life-earning, for educational, religious and social purposes, the obscurantist laws regarding tenants and Rents should not be applied to those pertaining to those charitable bodies. They have operated in social justice long before the Union or State Government thought of educational service, and on this account they stand on par with social welfare departments of the Government.

#### 5.1 Consequential Findings:

The legal battles, could be time consuming and monetary expensive. Rent control viewed in isolation seems to be wholly conditioned to protect the tenant against the landlord. This is the popular view. The steps taken in Delhi when there was acute shortage and also the articles incorporated in the Madras act of 1960 have nothing to obstruct the production of houses with rents above Rs.250/- for buildings constructed after 1960. Also a reconstruction of an old building into a totally new building leaves the landlord free to fix the rent price for the use of house space.

#### 5.11 Housing Supply:

The restraints on housing supply due to Rent control act above are often exaggerated. It is the tax structure, especially the property tax and the tax on urban land sites along with Wealth Tax which work against the supply of housing. In the city of Madras if the Property Tax is altogether abolished, one would lose a few crores of rupees, but one could straight away solve the problem of housing scarcity in the city and could easily expect a new look what with multi-storied buildings, and housespace for the poor with becoming an issue. What applies to a capital good in adequate supply in respect of the fairness of its price mutatis mutandis applies to housing supply in urban areas. The present policy of the Government both at the level of state and that of local bodies is working at cross purposes. The Housing Boards have sprung up to subsidize the price of land for building. The local bodies have begun to tax as much as 30% to 40% of rental

value of property. Consequently a new rentier class who could enjoy the patronage of the Government has emerged to circumvent the social purposes of these measures. Even those who would have invested their meagre savings in small savings certificates or in Post Office Savings Bank are tempted and have begun to stand in this queue of official patronage to acquire landsite in some part of the city to get a new kind of bureaucratic rent. It is not possible for all Government servants to live in cities forever notwithstanding government orders of transfer. However, they are tempted to acquire low priced house sites and fritter away their small savings on house construction with the dominant, if not the expressed purpose of getting rent and are becoming, unawares, landlords. The argument not to be missed is that by no means house construction is a hobby, or experimental work. The building contractors could do this job, better and on a massive scale, if only the temptations of becoming landlords have not been there to lure the officials, and other fixed income earners.

#### 5.12 Economic Side Effects:

As regards the monotony and most unimaginative design of buildings erected under governmental auspices, the less said the better. Land cannibalism is rampant. The multi-storied buildings would have conserved, or at least in cities - the lungs of urban life - tiny match boxes have sprung up ad infinitum. The creation of a few competitive housing corporations based on shares by the future owners of buildings would have operated as a countervailing force to curb this monotony in design and execution. The possibility of prices and the use of house space would have motivated themselves to supply, with perhaps half the money invested in Housing Boards.

# Housing and Building Activity as a Booster for National and Regional Economy

by

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## Summary

The paper analyses role of Five Year Plans in solving housing problems. The author feels that instead easing out, housing problems have aggravated during the plan periods. It is estimated that an investment of Rs. 130,900 millions may be needed to meet demand of additional housing likely to be generated during 'Seventies' of which rough Rs. 23360 millions will have to be invested in States Southern Region. The paper stresses need for formation of 'Ministry of Housing', 'Socialization of house construction in urban areas', 'participation of L.I.C. in rural housing' and calls for recognition of housing as 'priority sector'.

### 1. Five Year Plans and housing.

1.1 The insignificant role played by investment in housing in our Five Year Plans is evident from the fact that its share in total national income which stood at 2.3 per cent in the First Plan progressively declined to 2.1 per cent and 1.3 per cent in the Second and the Third Five Year Plans, respectively. Unlike the many other industries, gestation period of investment in housing is relatively short. Further, there has been such a staggering shortage of housing in the country - both in the urban and in the rural areas - that there is no need to "create" demand for the product. Basically, investment on a substantial scale in urban and rural areas would facilitate the achievement of the twin objectives of accelerating house building activity to wipe-out housing shortages and providing ample employment opportunities to the unskilled and semi-skilled workers.

### 2. Magnitude of Housing Problem in India.

2.1 In India we have no definite data relating to housing shortages, nation-wise and state-wise. In a speech delivered at the State Housing Minister's conference at Madras on 8th November, 1967 Shri Jagannatha Rao, Union Minister for Works, Housing and Supply, observed that on a modest assumption that a housing unit in urban and rural areas would cost Rs. 10,000 and Rs. 3,000 respectively, at least an investment of Rs. 30,000 crores would be required to wipe out the estimated existing housing shortage of 114 lakhs in urban areas and 623

lakhs in rural areas. At the beginning of the Fourth Plan, the Deptt. of Works, Housing estimated that housing shortage would be about 837 lakh units - 718 lakhs in rural areas and 119 lakhs in urban areas, and the overall shortage would rise annually by 20 lakh units. If we take the price rise since these estimates are made, our estimate of investment in housing would be around Rs. 35,000 crores to wipe-out the existing housing shortage in the country. The performance of private and public sector agencies in this regard has been relatively insignificant. During the fifteen years, 1951 over 1966, only 60 lakh housing units involving an investment of Rs. 2,500 crores were constructed.

2.2 At the state-level the situation seems to be worse. The state Governments have the discretion to divert funds, allocated for purposes of housing to other programmes. Consequently even the meagre funds made available to state Governments in many cases, were not fully utilised for constructing houses. As at the end of March, 1968, the Central Government allocated about Rs. 270 crores to state Governments and Union Territories as financial assistance for implementing social Housing Schemes. Of this only about 75 per cent was utilised by the latter.

### 3. Housing in the Fourth Five Year Plan.

3.1 Provision for housing in the Fourth Five Year Plan does not leave any doubt in our minds about the gloomy prospects of housing in the near future. At the instance of the Planning Commission, a working group on housing was set-up which recommended a bold housing policy based on such guide lines as (i) Housing should be given sufficient priority in any scheme of national planning, (ii) government should follow a selective approach to the housing problem and promote construction of houses in the metropolitan and other cities; (iii) Government should endeavour to mobilise private resources for construction of houses, especially for the lower-income groups through measures such as a system of mortgage insurance for house construction and land development; floating of loans and debentures by the state Housing Boards, etc. (iv) Government should encourage the establishment of State Housing Boards, Apex co-operative Societies etc. by participation in the share-capital of these institutions. The working group recommended Rs. 233 crores as a minimum for the Fourth Plan. However, the actual amount in the Fourth Plan for housing is much below this. In the Fourth Plan, a paltry sum of Rs. 218 crores has been allocated for housing and urban and regional development which accounts for less than 1½ per cent of the total Plan Outlay. This amply proves, if at all any proof is necessary, that wiping out the backlog of housing shortages is not the aim of the Fourth Plan. Its aim appears to be to reduce the accumulation of shortage.

houses. With the rise in population at the rate of 2.5 per cent in the country as a whole, the demand for housing is bound to increase at a fast rate during the next decade. This would be accentuated further by fast spreading urbanisation. Unless measures are taken both at the national level and at state level, the problem of housing shortages which is already staggering in dimension, would become insoluble. If the backlog cannot be solved through radical and bold measures, at least the future demand for housing should be met with so that the "Housing Gap" might not widen further.

#### 4. Housing in the seventies.

4.1 Housing in the 'seventies' would pose a serious challenge to the country. Population is estimated to rise to 675.50 m. by 1979, urban and rural population would touch the level of 121.59 million and 553.91 million respectively. Thus by the decade ending 1979, there would be an increase of 138.32 million in the country's population (24.90 million urban and 113.42 million rural). Presuming that a household comprises five members (we hope that the present family planning drive with its "Dio Ya teen bus" slogan - would be a success), the increase in households by 1979 in the country would be 27.66 million, comprising 4.98 million households in the urban area and 22.68 million households in the rural areas. This would be minimum additional demand for housing units in the seventies.

4.2 National sample survey Reports furnish data revealing the sub-human conditions under which people live (Table I). We assume that each household requires at least 300 sq.ft. living space, either in an urban area or in a rural area, to put-up a facade of living as human beings. On this basis 3298 million square feet (1494 million sq.ft. in urban areas and 6304 million sq.ft. in rural areas) of housing space has to be constructed during the 'Seventies'.

4.3 It is difficult to assess precisely the construction cost of housing in urban and rural areas. Various factors such as land prices, price of materials used, availability of controlled building material, demand and supply of constructional workers, regional variations in prices, etc. affect the overall cost of housing. It is wrong to presume that the rural housing costs are very low as compared to urban housing costs. This may be true when rural housing is compared with housing costs in a metropolitan city like, Bombay. Therefore we presume that while in the urban area the building cost is Rs. 30 per sq.ft. it is Rs. 20 per sq.ft. in the rural area. This excludes land prices which vary widely from region to region and locality to locally in the same region. On this basis, it is estimated

that to meet the demand for houses emanating in the 'Seventies' an investment of Rs. 180,90 crores (Rs. 4482 crores in the urban areas and Rs. 13608 crores in the rural areas) in housing will be necessary (Table II).

5. Housing in some Southern states during the Seventies

5.1 The housing problem in the 'Seventies' in the states would be in no way better than in the country as a whole. It might become worse because of the practice of diverting even the meagre funds allocated for housing to other development and/or non-development programmes. Secondly, that the gravity of the problem is not fully appreciated by any State Government as well as central Government. This is evident from the fact that there is no separate ministry to solve the housing problem. Housing is clubbed with health, family planning, civil works, urban development etc. etc.

5.2 An estimate of the likely housing demand in the 'Seventies' in some of the southern states is given below.

5.2.1 Andhra Pradesh : It is estimated that the total population of the Andhra Pradesh would increase by 9.11 million (1.59 million urban and 7.52 million rural) by 1979. This would mean an increase of 1.82 million households, comprising 0.32 million in urban areas and 1.50 million in rural areas which would require at 300 sq. ft. per household, 96 million sq. ft. of housing in urban areas and 450 million sq. ft. in rural areas. Presuming that the cost of construction would be Rs. 30 per sq. ft. in urban areas and Rs. 20 in rural areas, the cost of constructing the housing units to meet the additional demand in the 'seventies' would be Rs. 1188 crores (Rs. 288 crores in urban and Rs. 900 crores in rural areas).

5.2.2 Tamil Nadu and Mysore : By the end of 1979, population in Tamil Nadu and Mysore states is estimated to rise by 6.7 million and 7.18 million respectively. The additional demand for housing units would be 1.35 millions and 1.44 millions. An estimated cost of Rs. 30 per sq. ft. in urban and Rs. 20 per sq. ft. in rural areas to construct at least 4.05 million sq. ft. of housing spaces Tamil Nadu would require Rs. 738 crores while Mysore state would need Rs. 960 crores to build 432 million square feet of housing accommodation. It may be of interest to point out here that in Tamil Nadu the ratio of urban population to rural population is much higher than that in Andhra Pradesh and in Mysore. This is a pointer to the fact that housing schemes in Tamil Nadu will have to be more urban biased while in Andhra Pradesh and in Mysore their bias has to be more in favour of rural areas.



## 6. Measures to accelerate housing construction.

6.1 The ineffective role of the government, either at the national level or at the state level, is largely owing to the fact that Government's share in total investment in house building is not significant. By and large, it is private investment that dominates housing activity either in the urban areas or in the rural areas. It has to be accepted as a truism that private investment is profit oriented and tends to flow into areas where the return on investment is relatively high. Thus, it concentrates largely in urban areas, that too in a few metropolitan cities like Bombay, New Delhi, Calcutta, Madras etc. Consequently large parts of rural and urban areas remain outside the purview of private investment. Even public investment, in the name of serving the lower income Bracket or Middle Income Bracket etc. largely caters to the needs of white collared workers in big and medium-sized cities. In the result, the shortages in housing snow balls and presents an insoluble problems.

## 7. Socialization of House Construction in Urban areas.

7.1 The States should take measures to solve their housing problems without too much dependance on the centre. The southern states are primarily rural in their complexion and thus their problem is much more difficult to solve since private investment would be reluctant to enter any rural housing scheme. The State Government by itself cannot solve the problem with limited resources at its disposal. With a view to (i) compelling private investment to enter rural areas and (ii) avail the vast scope to make profit in urban house construction activity, these State governments should socialise house construction activity in the urban areas. There is nothing radical in this suggestion; it is being successfully carried out in all socialist countries in Europe. To suit the Indian conditions we can adopt this measure with some modifications. The State Government earmarks urban areas under its jurisdiction where no private investment in housing is allowed, except for residential purposes by the owner of the housing unit. The State Government undertakes housing construction through a House Building Corporation. The initial capital would be contributed by the State Government, Life Insurance Corporation of India and Commercial Banks, and the resources of the Corporation would be augmented by issue of debentures and bonds, public loans, borrowings from financial institutions etc. etc. The door to enter the urban areas where the rate of return is relatively high being closed private investment which ordinarily seeks employment in housing would have three alternatives

- (i) divert towards rural areas
- (ii) employ atleast a part of it in House Building Corporation's bonds and debentures, and
- (iii) seek other venues in the private sector.

while (i) and (ii) would directly contribute to the problem of housing in the state (iii) would indirectly boost the State's economy. When even a part of private investment which generally is employed in housing flows into other sectors of the economy such as manufacture, extraction, trade etc. the additional investment so invested would give a boost both to production and employment in these sectors of the state economy.

7.2 While the ownership housing units would be allowed to be constructed on individual initiative and enterprise the proposed corporation would build standardized housing units of different sizes to meet the needs and capacity of different strata of urban population. Given the determination and success which India can achieve that Macmillan had achieved in the immediate years of post-war period in Great Britain as Minister of Housing.

## 8. Rural Housing.

8.1 To accelerate house building activity in rural areas housing finance should be integrated with co-operative and banking finance. Now that 14 major commercial banks are nationalized, such a measure would be very effective. These institutions should break away from the worn out orthodox practices and extend credit for housing activity. Suitable facilities for refinance of such credit should also be made available for these institutions. Secondly, while many incentives could be given to encourage savings keeping different types of financial assets, there is no reason why savings in the form of investment in housing should not be encouraged by the government. Investment in housing in rural areas should enjoy not only tax concessions on the return it fetches but also should be exempt from wealth tax and death duties. The State Government on its part can exempt or give concessions regarding sales tax and excise duty on the inputs for house building in the rural areas. Thirdly the "green revolution" in the country side has brought about a spurt in rural prosperity. However, the surplus of current income over consumption has been largely retained in the form of non-financial assets such as gold, silver, jewellers, precious stones etc. etc. Nationalised banks have been endeavouring to siphon-off this surplus in the form of deposits by opening branches on a large scale in rural areas. Unfortunately, the response seems to be not encouraging.

8.2 Efforts are being made by these banks to evolve new schemes to attract savings in the rural areas. A scheme suggested in this connection by Dr. V. V. Bhat ("Economic and Political Weekly", September 5, 1970) deserves attention. Banks can offer Housing Deposits under which if a person continues to make additions to these deposits (not necessarily at a fixed rate), every year for a period of say 7 to 10 years, he should be assured by the bank that it would extend to him a loan equivalent to double the amount of his deposit to be rapid over a period of 7 to 10 years. Such a deposit scheme would induce a person to start saving early in his career with a view to possessing a house at an age when his family responsibilities may not allow him to save enough for this purpose.

8.3 The Life Insurance Corporation, the largest single financial institution in the country's public sector, can also contribute its mite in solving the housing problem. At present it provides funds for housing purposes to state Governments and facilitates loans to its policy holders. As such there is no direct participation by the LIC in housing activity. With a view to attract the rising rural savings consequent on "green revolution" and expanding its own life business in the rural areas, the Life Insurance Corporation should enter the home building sector on a large scale. In fact the LIC is ideally suited for this role. It has greater access to individuals through its large net work of agents, field officers, etc. It has relatively vast funds at its disposal. Further, housing is an effective instrument for the LIC to boost regional economies. Housing provides an easy access to rural areas where the LIC has yet to spread its nets. The Life Insurance Corporation should embark on building low cost housing units especially for middle and lower middle income groups in rural centres which are beneficiaries of "green revolution". These houses should be sold to those who take insurance policies. A person who takes a policy of a specified minimum amount would be entitled to occupy immediately a housing unit built for that category of policies. The value of the housing unit can be amortized over a specified period of time by including it in the premium amount. The main attractions for policy holder under this "Own your House by owning a Life Policy" would be (i) he would get a ready made house for immediate occupation, (ii) the risk of life would be covered (iii) he can make payment on instalment basis. This would save the middle and lower-middle classes in rural areas from being exploited by real estate speculators, money lenders and middlemen. For this purpose the State Governments can make their lands in rural areas available to the LIC at a nominal or no price.

The scheme if implemented would boost life insurance business in rural areas and at the same time would contribute to the solution of rural housing problem. Constructional activity of this magnitude would also lessen rural unemployment especially when the agricultural labour remains idle when the season is over.

8.4 When continual investment in rural housing is kept on a firm footing in the states, ancillary industries also develop in the region such as brick kilns, lime and cement concrete, plumbing, timber supply, carpentry, metal works etc. providing more employment opportunities and incomes which in turn would contribute to the state's economic development. What is called for is a combination of determination and drive on the part of the states to tackle the problem. Housing should be recognised as a priority sector and should not be treated as a "residuary item" in the plan outlay. Resources are a bottleneck no doubt, but it should not be allowed to thwart the efforts of the centre and the states to solve the housing problem in the country. By evolving different schemes outlined in this paper at regional levels, suitable to local conditions, this problem can be atleast partially solved during the 'Seventies'.

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Table-1: Percentage Distribution of Households by Floor Space  
Per person

(October 1953 - March 1954)

Floor Space per person (Sq. ft.)	Percentage			Cumulative Percentage		
	Rural	Urban	Cities	Rural	Urban	Cities
1	2	3	4	5	6	7
Upto 25	6.68	5.33	3.71	6.68	5.33	3.71
26-50	7.55	15.81	29.73	14.23	21.14	33.24
51-75	9.41	11.49	9.69	23.64	32.63	43.13
76-100	14.83	13.19	10.27	38.47	45.82	53.40
101-150	16.97	14.44	10.21	55.44	60.26	63.61
151-200	15.50	13.40	13.82	70.94	73.66	77.43
201-250	11.96	11.68	7.30	82.90	85.34	84.73
251-300	8.77	6.80	6.03	91.67	92.14	90.76
Above 300	5.33	7.86	9.24	100.00	100.00	100.00
Total	100.00	100.00	100.00	-	-	-
No. of Sample Households	4,181	1,713	353	-	-	-

Source : National Sample Survey Report; No. 25

Percentage Distribution of Households and Persons  
By Per Capita Floor Space  
(July 1959 - June 1960)

Per Capita Floor Space (Sq. ft.)	Households				Persons			
	Rural		Urban		Rural		Urban	
	Actual	Cumulative	Actual	Cumulative	Actual	Cumulative	Actual	Cumulative
1	2	3	4	5	6	7	8	9
Upto 25	11.61	11.61	15.51	15.51	13.78	13.78	21.23	21.23
25-50	25.42	37.03	28.94	44.45	28.74	42.52	33.90	55.18
51-75	20.87	57.90	15.05	60.50	21.64	64.16	16.81	71.39
76-100	13.98	71.88	13.49	73.99	13.78	77.94	11.47	83.46
101-150	13.32	85.20	11.02	85.01	11.76	89.70	3.62	92.08
151-200	6.37	91.57	4.62	39.63	4.83	94.53	3.03	95.11
201-250	2.93	94.50	2.48	92.11	2.00	96.53	1.67	96.78
251-300	1.43	95.93	3.15	95.26	1.02	97.55	1.38	98.16
Above 300	4.07	100.00	4.74	100.0	2.45	100.00	1.84	100.00
TOTAL	100.00	-	100.00	-	100.0	-	100.00	-
Sample size	7,700	-	2,201	-	40,344	-	19,721	-

(Source : National Sample Survey Report, No. 146.)

Table-2: Estimated construction cost of housing demand potential of 'seventies'.

		(In Millions)			
		All India	Andhra Pradesh	Tamil Nadu	Mysor
I.	Estimated population by 1979*	675.50	51.53	45.60	35.8
	a) Urban	121.59	8.97	12.18	7.6
	b) Rural	553.91	42.56	33.42	27.8
II	Increase over present population (1969 Estimated)*	138.32	9.11	6.74	7.1
	a) Urban	24.90	1.59	1.80	1.6
	b) Rural	113.42	7.52	4.94	5.5
III	Actual increase in number of Households (at 5 persons per Household) (1979 over 1969)	27.66	1.82	1.35	1.4
	a) Urban	4.98	0.32	0.36	0.4
	b) Rural	22.68	1.50	0.99	1.0
IV	Requirements (additional) of houses at 300 Sq. ft. per Household by 1979. (Sq. ft.)	8,298	546	405	432
	a) Urban	1,494	96	108	96
	b) Rural	6,804	450	207	336
	Cost of construction of additional dwellings (Rs.)	180,900	11,880	7,380	9,600
	a) Urban (Rs. 30 per Sq. ft.)	44,820	2,880	3,240	2,880
	b) Rural (Rs. 20 per Sq. ft.)	136,080	9,000	4,140	6,720

\* Estimated Mid.-year Population.

Note: Population figures break up into 'Urban' and 'Rural' are worked out on the basis of 1961 Census figures. Source: Office of the Registrar General, India.