

International Co-operative Alliance

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Readings in Co-operative Housing

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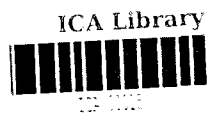
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This book presents select papers presented by experts of international repute on Co-operative Housing at the Regional Seminar, held at Kuala Lumpur in 1970, sponsored by the International Co-operative Alliance. The papers mainly deal with serious housing shortages in rural and urban areas, growth of slums, squatter settlements and general deterioration in housing facilities. The contributions on Acute Overcrowding in Urban Areas, the Planning and Implementation of Co-operative Housing Scheme, Government Policy for Development of Housing, Cost Saving Factors in House Constructions, Architectural Services and the Housing Problems of Low and Middle Income Groups highlight the topics of study.

The present volume is aimed at providing the government personnel and co-operators with valuable guidance on the subject.

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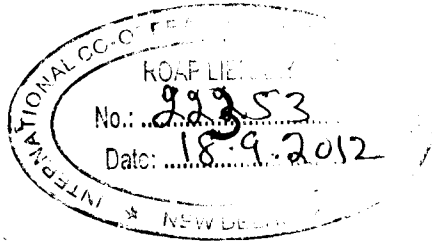


Readings in
CO-OPERATIVE HOUSING

INTERNATIONAL CO-OPERATIVE ALLIANCE

*Regional Office and Education Centre
for South-East Asia, New Delhi*

Readings in
**CO-OPERATIVE
HOUSING**



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PREFACE

A Regional Seminar on the Development of Co-operative Housing in South-East Asia was held jointly by the International Co-operative Alliance, Regional Office and Education Centre and the Co-operative Union of Malaysia in Kuala Lumpur and Penang from 19th October to 2nd November, 1970. Thirty-five participants from Sri Lanka, India, Indonesia, Iran, Japan, Malaysia, Pakistan, the Philippines, Singapore and Thailand participated in the seminar. The seminar had the benefit of the experiences of an observer from the UN/ECAFE and Resource Persons from Sweden, Germany, the USA, India, Malaysia and Singapore. The importance of the seminar was fully recognised by the Government of Malaysia inasmuch as Y.A.B. Tun Abdul Razak Bin Hussein, Prime Minister of Malaysia, inaugurated the seminar.

The need for a vigorous co-operative housing programme needs no emphasis. The countries in the Region are experiencing serious housing shortages in both rural and urban areas and especially severe overcrowding in urban areas leading to the growth of slums and squatter settlements and general deterioration in housing facilities. It is against this background that the seminar discussed the contribution which the co-operative movement can make to help people from low and middle income groups to solve their housing problems. Towards this end a number of papers on various important aspects of housing co-operation were presented at the seminar. We consider that these papers would be of value to an audience wider than those who participated in the seminar. It is with this hope that the present publication comprising papers presented at the seminar and the seminar report has been brought out. We hope that the publication will be found useful by government personnel and co-operators interested in the development of housing co-operatives.

I would like to express my sincere thanks to Mr. Lionel Gunawardana, Joint Director (Publications), for editing the papers and to Mr. Daman Prakash, Assistant (Publications), for seeing the publication through the press.

New Delhi
12 June 1973

J. M. RANA
Director (Education)

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Readings in
CO-OPERATIVE HOUSING

1. REVIEW OF HOUSING SITUATION IN THE REGION

SIM F. GARCIA

I. INTRODUCTION

The purpose of this paper is to review the housing situation, the patterns and trends of urbanization and their social and economic implication in the countries of the region; and to focus attention on the major problems of urban and rural development, particularly housing and urban land.

The developing countries in the region are experiencing the dramatic impact of rapid population growth, increasing industrialization and massive urbanization, which have led to serious housing shortages, severe congestion and overcrowding in urban centres, formation of slums and squatter settlements, spiraling of urban land prices, frustrating metropolitan traffic and transport problems, inadequate community facilities and services, chronic unemployment, and a host of other problems.

Solutions to these problems are made more difficult because of many competing claims on the limited resources available. In view of the serious social, economic and political implications of this situation, particularly where urbanization is outpacing industrialization, there is a pressing need for more energetic action. The problems resulting from the concentration of excessive population in a relatively few metropolitan areas accentuates the need for comprehensive planning covering the social as well as the economic aspects of development.

II. POPULATION GROWTH

During the decade 1950-60, the population in the region grew at the average rate of 1.96 per cent. In many countries, however, the rate was double this figure. Moreover, the rate of

growth of the urban population was still higher and varied from 5 to 7 per cent per annum for many large metropolitan areas. A forecast of the rate of population growth for the region for the period 1960 to 1975 is about 2.21 per cent annually.¹ According to existing trends, it would seem that, the urban population will continue to grow faster. It was also estimated that, during the same decade, the population in localities of 20,000 or more inhabitants within the region increased from 113 million to over 157 million, and that the figure will be close to 224 million by 1970.

III. PATTERNS AND TRENDS OF URBANIZATION IN THE REGION

While most of the countries in the region are concentrating their resources on economic development activities for raising the standard of living of the population, the orderly development of the cities and urban centres is not receiving the attention it deserved.

The general pattern of city growth in most countries in the region is that of expanding the built-up areas to accommodate the increasing number of urban dwellers who can afford to pay for their housing, those for whom the government or their employers can provide accommodation, and rural migrants who form squatter settlements on whatever space they can find. New physical developments, new industries and new residential areas have been undertaken on the extension of the built-up areas into the surrounding urban fringe. While new peripheral land is broken up into urban sub-divisions, the existing central parts on cores of the principal cities are by-passed and neglected and the ensuing deterioration, congestion and decay transform them into slums. These slums constitute health and fire hazards and are ripe for immediate elimination. Their removal would not only add to the supply of scarce urban land for development, but would also benefit the whole community and the people who live and work there.

In most cases, the central parts of the city constitute the heart of the urban community and its economic and cultural activities.

¹Implication of Population Trends for Planning Urban Development and Housing Programmes in ECAFE Countries (Asian Population Conference, 1963).

If the community is to function properly, it is obvious that its centre must be sanitary and kept abreast of progressive development. The elimination and revitalization of deteriorated, insanitary, unhealthy slum areas are as important as, if not more than the outward physical expansion of the city. Aside from the benefits to the community, a properly designed urban renewal scheme will yield a substantially increased tax revenue and will thereby have an advantageous effect on the overall development and progress of the city as well as ensuring more judicious use of the limited urban land.

One demographic feature of many developing countries is the uneven distribution of their population. There are areas of heavy population concentration consisting of agglomerations of cities, towns and densely populated rural areas, while other areas in the same country are sparsely populated, and some parts are totally uninhabited. Moreover, the picture is constantly changing as a result of population movements from one locality to others. Many countries in the region are experiencing rapid growth of their major cities and to a lesser extent of their smaller urban centres. At the same time there are movements from urban to urban and from rural to other rural areas, resulting in the development of new population settlements in the less densely settled regions.

The combined effect of demographic, social and economic forces is increasing urbanization. In countries with a relatively low degree of urbanization, or a relatively small proportion of urban population, continuing urbanization is essentially of a quantitative character, causing enlargement of the existing urban areas, or expansion of villages into towns. Where urbanization is already approaching saturation point, qualitative aspects and changes tend to become important. These are reflected mainly in the growing need for the redevelopment of older urban areas, for a more intensive use of land and for planning on a broader or regional scale. The need for reconstruction of entire regional patterns of existing physical development is another characteristic sign of qualitative changes resulting from a high degree of urbanization.

Social factors strengthen the significance of demographic and economic factors in the urbanization process. For example, the demand for more variety and higher quality in cultural life and

education, for better facilities and a wider diversification of employment opportunities, and for higher standards of housing and environment, constitutes a major force in the development of urban areas. The same is true of the growing demands for diversification of leisure activities, for greater social opportunities, for better health services, etc. As the standard of living rises and as the economy becomes more efficient, the importance of these factors in influencing the urbanization process increases.

IV. URBAN LAND PROBLEMS AND POLICIES

Even where money is available and adequate supplies of building materials and labour can be obtained locally, the provision of land remains a major problem in the implementation of programmes for urban housing and related community facilities. Even in countries where land suitable for development is not lacking, speculation the prevailing tax structure, wasteful sub-division and building practices, and failure to enforce regulations have created a relative, but no less critical scarcity of land at prices which make the development of low or moderate cost housing and related facilities difficult.

The expected rapid growth of population will create, in the next few decades, unprecedented pressures on urban land, with consequent inflation of urban land values. This, if not remedied, will make the provision of housing and related community facilities very costly for all but the upper income groups, and will place a heavy burden on the public budget.

There is an apparent need for improving urban land use policies and programmes in most countries in the region. Where urban land is in extremely short supply, as in the principal cities of some countries like Korea, there is a strong need for higher density residential development in lieu of the predominantly single-family detached dwellings, if intrusion into the surrounding agricultural land is to be avoided. For the effective implementation and enforcement of higher density residential development, master plans of cities and urban centres should make definite reference to desirable residential density in areas set aside for that purpose. Apart from designating an area as residential, specific density determination should be made when the future pattern of land use is considered for incorporation in the overall

master plan. Without this determination, the master plan will lose much of its effectiveness as a tool for making the best use of urban land.

Despite the scarcity of land, many cities and urban areas in the region are characterized by relatively low residential density. The single-family detached building remains predominant. Except for row-houses and a few walk-ups in commercial areas, multi-storey housing is rarely seen in residential areas. Considering prevailing scarcity and high cost of urban land, these types of development are unjustifiably expensive. There has been a general reluctance to have multi-family apartment houses although this type of dwelling could provide comparable or even better accommodation in terms of living convenience and facilities, than do the prevailing single-storey detached dwellings.

In many countries, it is the tax system that encourages speculation to take advantage of urbanization. Vacant urban land taxed at rates of 1 or 2 per cent a year or less on its value as agricultural land, or at values usually far lower than current market values, can be held indefinitely by the owner, whose profit when he finally sells, will far out weigh the accumulated costs. Reform of land tax measures so that vacant urban land ripe for development pays sharply increased taxes is one way of discouraging speculation. Similarly, increments in urban land values should be taxed more heavily than profits made from investments in industry, construction or other forms of productive economic activities.

Another source of difficulty is the lack of control over the use of urban land. As towns and cities grow, the usual results are a disorderly pattern of mixed land uses, congestion, uneconomic use of public facilities and other familiar concomitants of unplanned, uncontrolled development. When control is lacking over land coverage, heights of buildings and the relationship of buildings or land uses to one another, the provision of sufficient open space between and around buildings becomes impossible. Nor can there be orderly planning for schools, traffic movements, water and other utilities, when the direction of development and the density at which the land is built up depend on the decisions taken by numerous individuals separately on the basis of their immediate needs and without reference to what others are doing or planning.

As urban growth is inevitable, urban and metropolitan control of land use, including planning and the promulgation and effective enforcement of regulations, is essential. Such regulations, particularly those relating to intensity of land use, will serve to limit the potential price land and help discourage speculation.

In addition to tax measures and land-use controls, the provision of land needed to house and service the expected increase in urban population requires the compulsory purchase of tracts of vacant or built-up land by the public authorities. Purchase of such tracts without public intervention is usually expensive as well as time-consuming and can be thwarted by anyone of the property owners involved.

Excessive land costs in central areas are essentially the result of increasing demand upon a strictly limited supply. Another way of dealing with the problem is to decrease the pressure by a planned programme of decentralisation, designed to divert land demand away from congested urban centres. Metropolitan plans for industrial location can provide suitable sites for new industrial development in proper relationship to existing sub-urban centres of development or to planned future satellite towns, and development policy can encourage investment in such outlying parts of the areas, instead of in its central core.

V. THE PREVAILING HOUSING SITUATION

It was estimated that, because of demographic development alone, the housing stock in the region should be increased by 111 million dwelling units in the period 1960-75. The housing deficit in the region in 1960 was estimated at about 145 million units, of which 23 million were in urban and 122 million in the rural areas. The annual rate of house construction needed to house the increase of the population as well as replace units falling out of use and to liquidate the existing deficit within thirty years in the urban areas and twenty years in the rural areas will reach a total of 10 dwelling units per 1000 population in the period 1960-1975.²

To achieve the suggested rate of construction, it would be necessary for the countries in the region to make investments of the

²Report of the Committee on Housing, Building and Planning (Second Session).

order of 5 to 6 per cent of the gross national product in housing. Against this requirement, the actual investment in India during its Third Plan period (1961-66) was only 1.9 per cent of the GNP, while for the Fourth Plan period (1966-71) it is 2.17 per cent only. In Australia, where there is a fairly high rate of house construction, the investment in housing accounted for 4.35 per cent of the GNP. In the Philippines, according to the National Accounts for 1963 prepared by the National Economic Council, only 1.3 per cent of the GNP was invested in housing against the required 5.7 per cent of the GNP for the construction of about eleven dwelling units for every 1,000 inhabitants to liquidate the housing deficit in the next 20 years.

With the exception of Australia, Japan, Hong Kong, Singapore and New Zealand, the accomplishments of the countries in the region in the field of housing are very much below the target fixed for the First United Nations Development Decade. There has, therefore, been a general deterioration of housing and environmental conditions, especially in the urban areas. The rapid increase in the urban population due to large-scale rural-urban migration in the wake of industrialization and other factors has further aggravated the housing situation.

VI. SOCIAL AND ECONOMIC IMPLICATIONS

In view of the low level of urbanization generally prevailing in the developing countries in the region and the fact that many of them are still at the initial stages of industrialization, it can reasonably be assumed that urban growth will proceed at a faster rate for some years to come. The probabilities are that in many countries the rate of urbanization will continue to outpace the rate of economic development in the coming decades. The social problems connected with rapid urbanization will become increasingly prominent even by reason alone of the magnitude of the population involved.

In economic and social terms, the growth of population in the countries of the region leads to many problems. The rate of increase especially in the big cities already exceeds the rate at which employment opportunities, housing accommodation and essential community services become available. The problems of employment, housing accommodation, education and health

services and facilities are bound to become even more acute with further urbanization. Other serious problems are the growth of slums and squatter settlements, frustrating traffic congestion, inadequate community facilities and services, giving rise to squalor, social maladjustments, crime, diseases and social and political tensions. The more rapidly cities grow, the more rapidly social problems multiply and call for preventive and remedial action.

The tendency of the larger urban areas to grow more quickly is attributable to existing urban patterns which often consist of large cities surrounded by quasi-rural villages rather than a diffusion of towns of varying size. Prevention of this metropolitan concentration is difficult, because capital investment in sources of power, port and transport facilities is already very considerable and, in terms of economic efficiency, it is often more economical to expand facilities where they already exist than to establish them in new areas elsewhere.

Most of the countries in the region are aware of the present and impending urban problems, especially in relation to their programmes for economic development. Urbanization imposes a heavy requirement for urban infrastructure, including public utilities and housing—an especially difficult burden when urbanization is outpacing economic development and productivity.

The rapid growth of population, however, has complicated the problem of social and economic development of many countries in a number of ways. The high birth rates have created a heavy load of dependent children for the working population, most of whom have *per capita* incomes that are inadequate even for providing their families with bare necessities, to say nothing of better education and health, essential to social and economic advancement.

The rapid growth of population has also increased the pressure on land already densely settled and has retarded the productivity of agricultural labour, causing what is called the “rural push” factor of urban migration discussed earlier. This effect is seen not only in developing countries, where there is no more cultivable land, but even in those countries where the density of agricultural population in the areas under cultivation is high, although large areas of potentially productive land remain unused because of the prevailing land tenure systems, lack of capital or other reasons.

The acceleration of population growth resulting from the reduction of mortality requires that the production of goods and services be expanded at a more rapid rate if progress towards a satisfactory level of living is to be attained. The increasing population growth has, however, aggravated the problem of capital shortage which is one of the major obstacles to economic development and progress in the developing countries of the region. The faster the population grows, the larger the share of the national income which must be invested for productive equipment merely to maintain the existing level of equipment or capital assets per worker. The larger the investment required for this purpose, the smaller the share of national income that will be available either to raise the level of current *per capita* consumption or to make investments that would increase productivity and permit higher levels of consumption.

Because of the narrow margin of income over subsistence needs that characterises many developing countries in the region, they find it difficult to save and invest enough of their meagre national income to enable economic development to proceed at a satisfactory pace, even without population growth. Even where a larger population would be advantageous in the long run for some developing countries if they could industrialize and utilize their human and natural resources more fully, economic progress will be hindered if the population increases so rapidly as to cause an excessive drain upon the economy.

Where housing has been built—whether by private builders, self-help or squatters—it fixed the public investment in the vast network of public utilities and community facilities. The physical environment cannot be altered easily and enormous public investments are required to change and rationalise a pattern that has been established.

With further urbanization inevitable, there is no longer any alternative to investing in the systematic and orderly planning and development of urban as well as rural areas for the people who live and work there. In many countries in the region which are experiencing under-development and growth at the same time, sound, well-conceived housing and urban development programmes can constructively employ funds that may otherwise be wasted on improvised projects or relief payments. A

housing programme can also play a vital role in developing savings and in releasing unproductive capital in a country. People will save for housing even when they may not save for anything else.

VII. GOVERNMENT POLICIES AND PROGRAMMES ON HOUSING AND URBAN DEVELOPMENT

Because of their magnitude, urgency, complexity and scope, the problems connected with urbanization and the resulting acute shortage of housing and related community facilities and services have necessarily to be tackled through governmental action.

The problems involved in developing and implementing programmes of housing and urban development and those for dealing with the problems arising from rapid urbanization are complex and cut across many areas of activity, such as economics, engineering, architecture, education, public-health, social welfare, community organisation, city and regional planning, public administration, etc. By their nature, these programmes require considerable governmental action, which includes the determination of needs and allocation of resources, the formulation of policies, plans and programmes and their effective implementation.

In most countries of the region, Governments have undertaken direct public housing and physical planning programmes to mitigate the critical housing situation and the problems associated with rapid urbanization. Measures adopted by a number of them to check the flow of rural migrants to urban areas of three kinds:

1. The implementation of rural improvement programmes, including development of agriculture, establishment of industries in villages, rural electrification, land reform and community development;
2. Increased recognition and use of urban and regional planning as a means of achieving more balanced distribution of population as well as avoiding disorderly and wasteful urban growth and sprawl. The administrative machinery for undertaking this work however, is generally inadequate.

quate and there is a lack or a critical shortage of well-trained or qualified planners in the region. There is, therefore, an urgent need for expanding the facilities for education, training and research in urban and regional planning;

3. Greater attention has been given to the decentralisation of economic and administrative activities to open up new under-developed areas so as to divert the flow of migration away from large urban centres. A number of countries in the region have also built or are building new and satellite towns to reduce congestion and overcrowding in the big cities;

Comprehensive rural development programmes providing for improved agricultural methods, improved credit and marketing facilities, land reform, rural electrification, better schools, better roads and the development of village industries in a number of countries in the region have to a certain extent improved rural living conditions, and reduced the importance of the "push" factors in the rural-urban population movement. Nevertheless, despite these efforts, in some countries much remains to be done.

Although development planning on a national level is firmly established in most countries in the region, relatively little consideration has been given to a more balanced geographical distribution of development so as to enable areas outside the major urban centres to share their benefits. In other words, economic development policies as embodied in national development plans have not directed adequate attention to a balanced spatial distribution of industries and the accompanying phenomenon of urbanization. As a result, most of the metropolitan areas and larger urban centres have grown at a considerably faster (and often excessive) rate than most of the smaller urban areas. Remote and less urbanized areas in many of the countries have not benefited from national progress to say nothing of many depressed areas that have remained unchanged for decades.

In the early stages of industrialization, the industrial policies and activities of many countries in the region tended to accentuate, rather than mitigate or relieve, the problems arising from industrialization and rapid urbanization, Government and private

enterprises have made intensive use of available installed industrial capacity and the expansion of existing industrial plants rather than the creation of new ones elsewhere. The result has been industrial expansion in or near already crowded urban centres and the further migration of potential labour from the rural areas.

Urban and regional development programmes undertaken with United Nations assistance by a number of countries such as Afghanistan, Taiwan, Korea, Pakistan and Singapore with Special Fund assistance, will enable the countries concerned to acquire a deeper understanding and better appreciation of the problems associated with urbanization as well as the necessary experience in dealing with them.

Most developing countries in the region lack satisfactory physical planning machinery and local qualified staff. The organisation and staffing of appropriate physical planning offices will occupy a prominent place in the activities of member countries for a number of years to come. The establishment of the Institute of Planning in the University of the Philippines with assistance from the UNDP (Special Fund) and the Centre for Research and Training in Regional Development sponsored jointly by the United Nations ECAFE and the Government of Japan, will be able to contribute a reasonable share in alleviating the existing shortage of trained planners in the field of urban and regional development.

VIII. POPULAR SUPPORT AND PARTICIPATION

Governments have long intervened directly or indirectly in providing housing and community facilities for the population and in the planning of the physical environment. Because of limited resources, however, governments alone have not been able to provide all the needs of the population for adequate shelter and community facilities and services. They have to rely on the support and contribution of the private sector—a contribution reflected in such activities as private house-building, production of building materials, investments in housing construction through individual savings, housing co-operatives, self-help, aided self-help, etc.

While the private sector in many countries in the region has

contributed significantly in activities for dealing with problems of housing and urban development, this contribution has been impeded by such factors as: lack of long-range planning or programmes, which has prevented the building and building materials industries, most of which are privately owned, from making adequate investments for increasing productivity and reducing building costs; inadequate administrative machinery for dealing with housing and urban development problems, aggravated by the lack of trained technical and management staff; lack of or inadequate financing mechanism or schemes for encouraging savings for home construction; lack of understanding or appreciation of the benefits and advantages of housing co-operatives; lack of rational urban land policy for preventing land hoarding and the spiralling of land prices; and failure in most of the countries to tap the immense potential of self-help housing especially for the rural areas.

IX. CONCLUSIONS AND RECOMMENDATIONS

Most of the developing countries in the region devote a lower share of their national income to housing and related programmes than appears justifiable in terms of both social and economic requirements.

In the face of the overcrowding already existing in many urban areas in the region, the existence of slums and squatter settlements and the difficulties inherent in conflicting jurisdiction and competition for land, there is a pressing need for governments to formulate comprehensive policies and programmes to deal with these problems. The adoption of realistic targets and goals for housing and urban and regional development programmes would provide a focus for the mobilization of national and local resources and a basis for the planning and coordination of activities.

The first target of increased housing and urban development programmes should be to arrest the massive concentration of population in metropolitan areas and the deterioration of the existing housing situation, and to construct sufficient dwellings and related community facilities and services to cope with the annual increase in population, or with the demand for new-dwellings resulting from the rise in family incomes. Large

programmes are required for the liquidation of current housing shortages and to keep pace with current obsolescence. The clearance of squatter settlements, slums and blighted areas and urban renewal operations are activities that also demand increasing attention. Merely providing shelter to the population is not a permanent or even a realistic solution. The problems must be dealt with in a comprehensive manner giving due regard to such questions as employment, rational urban land policy, industrial location as well as other relevant social and economic aspects of urban and regional development.

To be effective, there should be an adequate supply of trained personnel at all levels both in the field of housing and in the field of urban and regional development, as well as suitable central machinery for the formulation of programmes and strong government bodies for their effective implementation. The Central machinery must be endowed with the necessary power and resources to enable it to guide and integrate the component programmes into one national effort.

The correct approach to the problems of urbanisation, population distribution and settlement due to social and economic development is through comprehensive economic and social surveys and the establishment of economic and physical development plans. Planning on a regional scale could guide urbanization, industrialization and internal migration in a balanced and orderly manner.

2. CO-OPERATIVE HOUSING

P. E. WEERAMAN

THE NEED OF HOUSING

Food, shelter and clothing are the prime requisites of man. The exploitation of these needs by middlemen for their own profit is, therefore, more objectionable than that of other needs.

Although much has been done to end the exploitation of these needs, the exploitation of housing needs remains more acute than ever.

Wallace J. Campbell, President of the Foundation for Co-operative Housing (FCH) and of the International Co-operative Housing Development Association (ICHDA) says that "most of the countries of the world are sinking into an abysmal crisis of poor housing." Squatters make up one-fifth to one-third of the population of most cities while home construction has failed to keep pace with the population increase in most countries. This situation should not exist, for even the poorest areas of the world have the man-power required to build the houses needed. Materials for house building are available in every country and financial resources exist, but they have not been mobilized to meet "the housing crisis." In view of the availability in every country of the basic ingredients required to remedy the housing shortage, it is tragic that the shortage remains so acute.

"Too many look on housing as a *problem*" says Wallace Campbell. "In reality it is the world's largest *market* and one of the greatest opportunities." Campbell says that the world must build in the next 30 years as many new homes as have been built since the beginning of time! As he puts it, this is a challenge but it is also "the gateway to the greatest *market* the world has ever known."

Hitherto, or until recently, Governments and planners have given only second place to housing. Top priority has been given

by them to irrigation and agriculture, health and education. Gradually, however, the view is gaining ground that housing is as important as any of these. Campbell says "housing is not merely a consumer end-product but an economic process, involving land and land use, planning, construction, production of building materials, appliances and creation of a financing mechanism," as well as "a social process, providing character, a healthy and artfully designed community environment and the basis for economic and cultural development." Thus, he says, "housing is as close to being the total economic process and the total cultural process as any single activity in modern life."

The building of homes means the creation of new jobs, new industries, new financial techniques and so a new state of prosperity.

The beginning of the process is the mobilisation of capital which, to start with, is done within the community. "Savings and loan associations have been the largest single factor in providing good housing and home ownership for the majority of the people in the United States." As Campbell points out better housing creates higher satisfactions and encourages greater productivity. It is a positive factor in better education and better health.

These excerpts from Campbell's "Co-operative Housing: Stimulus to World Development" are sufficient to convince any decision-maker that housing is a must.

WHY CO-OPERATIVE HOUSING?

A housing co-operative provides for the joint ownership and operation of a housing project by and for the residents. The main characteristics of a housing co-operative are that it is non-discriminatory in its policy, it is democratically controlled by its members and it is operated on a non-profit and non-speculative basis. Co-operative housing, therefore, involves education and training, mobilisation of saving, self-help and mutual help. It brings about mutual understanding and the creation of common institutions.

Co-operative housing eliminates both the profit taken by a landlord in the case of rental housing and the profit taken by an entrepreneur of real estate. Housing co-operatives prevent

speculation in renting or reselling, for these are allowed only when it becomes really necessary for a member to move out. A withdrawing member is required to offer his dwelling to the co-operative at a non-speculative price thus ensuring the availability of this housing to others desiring to become home-owners.

People increasingly seek to be home-owners. One possesses a sense of having arrived when one becomes the owner of his dwelling. Co-operation provides the method of fulfilling this aspiration. Co-operation provides in institutional framework "not only to obtain better housing at less expense but also to create and maintain the community facilities and amenities that mean not just better housing but better living."

CO-OPERATION AMONG CO-OPERATIVES

Co-operative housing societies can eliminate not only the landlord's profits but even the profits that go to middlemen in the process of building, if they engage the services of other co-operatives, viz. those which are in the building and allied trades, e.g. productive (workers) co-operatives of artisans, carpenters, brick-layers, brick-makers, etc. There are some good examples of this available in Ceylon. The result of such house construction in Sri Lanka was that the houses were built for only half the normal cost.

When producers and consumers meet in this way through direct dealing between co-operatives on the principle of "Co-operation among Co-operatives", the paradoxical but nevertheless true position emerges of producers and artisans getting more for their products and labour while consumers pay for these same items less than what they would have to pay for them in the open market. Even more valuable than this reduction in cost is the fact that co-operative housing becomes a lever for co-operative development in all the trades connected with housing.

THE ECONOMIC ADVANTAGES

The economic advantages of acquiring a house through a housing co-operative may be summed up as follows :

- (i) The acquisition of land, material and services on a larger scale reduces the costs of these items.

- (ii) The legal work entailed in acquisition etc. is greatly simplified and its costs are reduced.
- (iii) A member of a co-operative housing society feels secure from the knowledge that in case of short delays in the payment of the monthly instalments the co-operative could make the payment at least for a limited period.
- (iv) The members pay monthly only their share of the actual operating costs of a housing co-operative whereas in rental housing the rent is often affected by the laws of supply and demand. Thus, during times of housing shortage or general inflation, rents may rise in excess of the rise in operating costs. Moreover, the monthly rent payable to a housing co-operative does not include an amount taken by the landlord as his profits.
- (v) There are savings to members in the costs of facilities, equipment and appliances: for example, savings obtained from master-metering of residential electric service, from group mortgage, from fire, life and other forms of insurance and from group purchase of furniture and other requisites.
- (vi) In many countries co-operatives are taxed at a lower rate than other owners or are not taxed at all—a recognition of their importance as non-profit entities in meeting the needs of middle and low income families as well as an encouragement to their continued growth and development.
- (vii) Housing co-operatives make the most economical use of land and resources.

THE SOCIOLOGICAL ADVANTAGES

The sociological advantages which flow from a co-operative housing project are perhaps even more important. They could be stated as follows :

- (a) The residents have a voice in the policies and standards under which their housing will be operated. There is, thus, no occasion for resentment against absentee ownership or control. At the same time, the residents must assume responsibility for the business-like operation of their project.

- (b) Their co-operative being a democratic institution, the members learn the democratic processes by participation in the management of the project.
- (c) The members often acquire not only a pride of ownership but also an interest in the general community. They naturally become interested in their less fortunate countrymen who live in slums. Rental tenants, generally, do not develop this interest.
- (d) Housing co-operative estates do not experience the problems of up-keep and behaviour faced by landlords of rental projects. The element of ownership and the arrangement for self-governing management tend to create an atmosphere of mutual respect.
- (e) Housing co-operatives remove speculation from the field of housing as far as their membership goes and act in turn as a corrective to unscrupulous landlordism.

CONCLUSION

Thus, co-operative housing results in lower costs to the cooperative members, protects the investment of both the individual members and the lenders, discourages speculation and produces strong viable communities that will endure. As in other spheres of co-operation, housing co-operatives are another instance of people expressing themselves through their own social and economic institutions. As pointed out by the Foundation for Co-operative Housing such participation in economic growth is necessary if that growth is to bring about stable and prosperous economies.

3. TYPES OF HOUSING CO-OPERATIVES: Local Organizational Set-up in the Federal Republic of Germany

BENN HEINEN

I. INTRODUCTION

Although Co-operative Housing in the Federal Republic of Germany has an individual character, organization and institution, its development and functions are closely bound to other types of housing enterprises with similar developments, aims, tasks and functions.

The latter, known as the Non-profit Housing Enterprises, enjoy the same legal benefits and restrictions¹ and are together with the housing co-operatives members in the regional audit-associations which in turn are members of the Head Federation of all non-profit housing enterprises in the Federal Republic of Germany.

It is, therefore, proper to introduce the co-operative housing movement within the general social and non-profit housing society.

The present conceptions of social housing in general and non-profit housing in particular, were shaped during an epoch of European history which is comparable in many respects to similar situations found in most of the developing countries today. Essentially the housing distresses and ailments were the outcome of the industrial revolution which led to a gigantic rural to urban migration and the growth of an alienated industrial proletariat characterised by its social and economic underprivileged status.

It could be argued that the vital elements and background of the rural-urban migration, namely, the process of industrializa-

¹Co-operatives are in addition under the regulation of the Co-operative Law.

tion and the formation of a true urban industrial working class is absent in most of the developing countries and hence, the concept adapted by industrialized countries for solving housing problems could not be applied to developing ones. However, this argument is only partially true since existing industries in the developing countries, even when embryonic, tend to agglomerate in urban centres. Furthermore, those urban areas where housing problems and needs are most obvious are usually the centres of administration, communication and services in which an important sector of lower and middle income groups is employed.

The purpose and intent of this paper, is to recount the experience of an industrialized country in order that these may serve as a lesson in framing housing development plans in developing countries.

II. THE DEVELOPMENT OF NON-PROFIT HOUSING IN GERMANY

The development of non-profit housing in Germany is strongly linked with the process of industrialization towards the end of the 19th century which brought with it a tremendous rural to urban migration and the rise of the industrial proletariat.

The growing demand for urban dwellings which could not be satisfied, soon led to rising prices and unscrupulous speculation. The masses of industrial workers, whose limited income did not allow them better housing, had often to live in overcrowded and unhygienic backyard apartments.

The miserable living conditions of this wide social strata gradually attracted the attention of social reformers and liberals, out of whose protests was born the non-profit housing movement.

The housing reform movement found two main outlets: on the one hand civic reformers and philanthropists, and on the other hand state and local authorities. Philanthropists from liberal circles were the first to provide capital for the founding of house building societies, which rented small apartments at cheap prices to workers' families. Such enterprises were founded at first in Berlin but soon spread elsewhere, in the middle of the 19th century. Corresponding to this development, governmental and other authorities started taking interest at the turn of the century, in the provision of housing to their employees at

reasonable rents. The first enterprises of this nature were founded for miners, but shortly after housing assistance was considerably expanded as an essential part of employers' social policy. Government agencies granted building loans at reduced interest to their employees. Later, municipal authorities, churches, trade unions and private employers began to participate in the construction of good and cheap dwellings for their employees or members.

Apart from governmental, local and philanthropic initiatives, the broad co-operative movement, established at that time, found its expression also in the housing field, in the form of mutual self-help housing societies which comprised mostly workers and lower middle-income groups who wanted to build cheap homes through joint savings and co-operation.

The co-operative housing movement, however, gained momentum with the enactment of the Co-operative Law (1889), which limited the members' liability. With the assistance of social insurance institutions and particularly local provincial institutions, as well as the Housing Assistance Fund established by the Prussian government, the railroad administration and others, the number of housing co-operatives grew from 385 at the turn of the century to 964 in 1910 and 3,400 in 1924.

After the World War I due to the acute housing shortage, the Government adopted a new policy which supported the founding of homestead companies (GmbH) with limited liability. The tasks of these companies are defined as the realization of housing projects through governmental and other means, the acquisition of building lands and the provision of regional housing requirements.

Simultaneously, the government granted initial help through various promotional measures. For example, loans were granted only on condition that recipients may not calculate interest at more than four per cent on their own capital. The system of credit support benefited every builder who was prepared to let dwellings at government fixed rents.

The increase of non-profit housing brought a growing demand and recognition of the need for co-operation, mutual assistance, exchange of experience and knowledge, as well as self-control. This need gradually promoted the establishment of the regional auditing boards which later formed a national organization of

Main Association of German Housing Co-operatives² and after the Second World War, the "Head Federation of the German Non-profit Housing Enterprises".

During World War II more than half of all the dwellings in the large German cities were destroyed. The great housing crisis required immediate attention and assistance, which was provided by the federal and regional governments, local and community authorities, private employers, trade unions, churches and others, all of which participated in the reconstruction work.

The assistance provided to non-profit housing enterprises such as certain tax reduction or exemption has been affirmed by law³ which regulates the activities of the enterprises and prescribes required limitations to ensure the efficient fulfilment of the non-profit housing objectives.

Today, the non-profit housing enterprises are the largest group of builders in the Federal Republic of Germany, and their participation in the post Second World War building activity reached 30 per cent.

The housing stock of the non-profit housing enterprises covered some 2.8 million dwelling units, a considerable part of which are rented apartments in multi-family houses, which provide shelter to 8 or 9 million people.

III. THE ORGANIZATION OF CO-OPERATIVE HOUSING

The major feature of the non-profit co-operative housing in the Federal Republic of Germany is its co-operative character on the one hand, and its role as a non-profit housing organization on the other.

As co-operatives, these housing enterprises are associated with the general co-operative movement which comprises also other organizations such as credit, agricultural and consumer co-operatives and are subject to the co-operative laws. The housing co-operatives are members of the non-profit housing organizations which they share with other types of housing enterprises such as limited liability and joint stock companies at the regional

²Wuptverband der deutschen Wohnungsbaugenossenschaften. Gesamtverband gemeinnütziger Wohnungsunternehmen.

³Wohnungsgemeinnützigkeitgesetz (The Public Benefit Housing Law).

and national level, where they adhere to the principles and law of non-profit housing.

Shaped by these two features the housing co-operatives are mutual self-help associations on a voluntary basis, founded by their members to provide their own housing requirements. Since the owner-members are also the customer-tenants, the cooperatives are able to offer their dwellings for a cost covering price. Thus the members themselves determine the policy of the co-operative and bear responsibility for its resources.

Compared with other non-profit housing enterprises, the fundamentals of the co-operative could be defined as personal participation and not the capital.

The aim of such participation is not the attainment of a large capital, but provision of the member's housing needs in the form of joint self-help.

(a) The Organization and Functions of the Local Co-operative

A co-operative may be founded when at least seven persons associate with the aim of establishing a housing co-operative, and draft in writing a by-law which may later be altered only with a majority of three-quarters of the members present in the meeting called for this purpose.

The founders elect an executive and a supervisory board. When the co-operative has been announced for incorporation by the Registrar, the by-law signed by the founders, together with a list of members, documents concerning the election of the executive committee and the supervisory board as well as a declaration of affiliation to a regional auditing board, must be submitted to the registrar's office. With the registration, the co-operative becomes legal body.

The number of members in a co-operative is not limited. Membership can be acquired through a written application. The executive committee has to enter the name of the applicant in the members' register and notify the supervisory board and the members.

A member is obliged to purchase a share which entitles the member to a vote in the co-operatives. Although a member may hold more than one share, he has only one vote, which must be personally exercised.

The members of the co-operative do not themselves participate in the administration of the co-operative, but entrust the elected executive committee with the management of the society, and an elected supervisory board with the supervisory tasks.

While in the past, the officers could afford to offer their services voluntarily, the complexity of present management, usually requires permanent paid directors and even staff.

The Executive Committee

The Executive Committee, which legally represents the Co-operative conducts the building activity of the society, administers the housing stock of the co-operative and that of third parties who entrust management of their property to the co-operative.

As a rule the committee comprises three members normally elected by the supervisory board.

The Supervisory Board

The Supervisory Board consists of at least three members who are elected by the general meeting. The board examines the activities of the executive committee, and complies with other duties in accordance with the by-law.

The General Meeting

The General Meeting or in other words the membership meeting is the highest authority of the co-operative in which every member may participate in decision-making through his vote. At the membership meeting the officers are elected, the annual report and balance sheet considered, and all important matters concerning the co-operative decided. In large co-operatives of more than 3,000 members, and sometimes even in smaller co-operatives, the by-law provides for: a *Delegates' Meeting* which is elected representatives of the members who must be members of the co-operative themselves.

The housing activity of the co-operatives involves two main tasks :

- (a) Provision of housing,
- (b) Housing administration.

Contrary to what might be inferred from the name, housing co-operatives are not construction firms. The co-operatives limit themselves to planning, supervision and administration of building before, during and after the construction, which is handed over to private contractors.

Hence, the co-operative officers are responsible for the acquisition of building plots, appointing an architect for planning the buildings, co-ordination with the local authorities, financing the projects and supervision of construction.

Later when construction is complete, the offices allocate dwelling units to members, collect rents, repay loans and fulfil all other administrative duties related to the management of a co-operative.

In addition to the building and administration of their own housing, housing co-operatives serve as trustees for individual owners. In this capacity they prepare, plan and supervise the construction for third parties.

This practice is becoming more and more common, in view of the technical and organizational difficulties facing the private builder-owner, who prefers to entrust the administration of his house construction to an experienced co-operative.

The social structure of the housing co-operatives is rather heterogeneous. Many co-operatives were established in specific areas by population groups of the same profession living under similar social and economic conditions, where the common need of housing encouraged common efforts. Co-operatives typical to this group are those established by teachers, civil servants and railways employees, etc. Correspondingly, the co-operative movement made a significant contribution in the construction of housing for the socially underprivileged groups of the population.

The structure and achievements of the co-operative housing movement may be more clearly seen from the following data:

At the end of 1968, the number of co-operative housing societies in the Federal Republic of Germany reached 1,436, (out of some 2,095 non-profit housing enterprises) with 1,402,441 members who possessed 3,229,698 shares.

The total nominal share capital of the housing cooperatives reached DM⁴ 1.1 million, or the average of DM

⁴D.M.—Deutsch Mark.

800.953 per co-operative and DM 792 per member.

The achievements may be compared with the figures for 1954.

	1954	1968	increase (%)
Number of co-operatives	1.835	1.436	
Total number of members	860.357	1.400.000	63
Total number of shares	1.204.630	3.229.698	
Nominal share capital	284.4	1.100	277

The decrease in the number of co-operatives during this period, is the result of a continuous tendency to amalgamate small and weak societies into larger and stronger groups. Typical of this trend is also the development of membership and building activity of the average co-operative.

Year	Average Membership	Average Housing stock	Year	Average Membership	Average Housing stock
1938	293	274	1959	640	420
1947	420	226	1960	681	443
1949	428	187	1961	723	465
1951	390	205	1962	757	481
1952	429	238	1963	795	485
1953	444	271	1964	846	590
1954	469	301	1965	886	551
1955	505	327	1966	934	579
1956	530	365	1967	971	602
1957	586	392	1968	1012	628
1958	612	409			

During 1968 (until 31.12.1968) the housing co-operatives constructed 28.404 dwelling units as builder owners and 5.427 as trustees—for other private owners.

The total housing stock of the co-operatives on that date amounted to 870.044 units owned by the societies and 20.975 units managed in the capacity of trustees for others.

Most of the dwelling units provided by the co-operatives are

apartments for rent, as indicated by the following table :

<i>Type of Housing</i>	<i>No. of Units</i>	<i>Type of Facility</i>	<i>No. of Units</i>
One/two family house for sale	20,772	Shops	5,523
One/two family house for rent	34,405	Individual garages	69,998
Privately owned apartments	3,992	Common garages	1,480
Apartments for rent	808,875	Other constructions	3,448

<i>Size of Unit (Square metres)</i>	<i>Number of Units</i>
under 30	16,276
33—40	75,715
40—50	164,342
50—60	220,968
60—70	193,105
70—80	98,909
80—100	55,278
100—120	9,442
above 120	2,942

Most of the rented dwelling units in stock were constructed after the Second World War :

<i>Dwelling Units by Period of Construction (out of 843.280)</i>	<i>Number of Units</i>
Constructed before 31.12.1918	48,561
From 1.1.1919 to 20.6.1948	192,520
Constructed after 20.6.1948	604,199

Nearly 75 per cent of the rented dwelling units are equipped

THE STRUCTURE OF HOUSING CO-OPERATIVES

Size of Community (inhabitants)	Enterprises		Membership			Housing Stock		
	total	per cent	total	per cent	average per enterprise	total	per cent	average enterprise
under 2,000	21	1.51	3,775	0.27	180	2,212	0.25	105
2,000—5,000	147	10.61	44,281	3.16	301	21,081	2.42	143
5,000—20,000	419	30.23	258,126	18.40	616	131,623	15.13	314
20,000—50,000	217	15.66	215,684	15.38	994	126,612	14.55	583
50,000—100,000	102	7.36	121,456	8.66	1,191	76,485	8.79	750
100,000—200,000	112	8.08	145,423	10.37	1,298	87,664	10.08	783
200,000—500,000	123	8.87	194,981	13.50	1,585	124,204	14.28	1,010
above 500,000	245	17.68	418,715	29.86	1,709	300,163	34.50	1,225
Total	1,386*	100.00	1,402,441	100.00	1,012	870,044	100.00	628

* The number of reporting co-operatives.

with heating facilities provided by the co-operative as detailed below :

<i>Type of Heating</i>	<i>Number of Units</i>
Oven	446,819
Tele-heating	36,446
Central heating	102,748
Floor heating	33,036
Home electric heating	2,319
Other heating	223,925

(b) *The Regional and National Organisation*

The housing co-operatives in the Federal Republic of Germany are organized regionally and nationally.

The regional association of housing co-operatives, together with all other non-profit housing enterprises, is governed by the Non-profit Housing and Co-operative Law which obliges the enterprises to join the regional auditing boards before obtaining the legal status of a non-profit enterprise.

The ten regional auditing boards correspond to geographical territories, but do not restrict their activity to auditing only. They represent and protect the interests of the individual enterprises *vis-a-vis* the local authorities and state governments advise them on legal, economic and technical matters and perform various other tasks related to the functions of the societies.

The audit and inspection are not limited to the economic sphere only, but also indicate whether the non-profit regulations and restrictions have been properly observed by the enterprise. If the audit reveals a violation of the law, the society can be warned that it may lose its recognition as a non-profit enterprise.

In the course of time, the control of the auditing boards proved a most important guarantee of the economic prosperity of the enterprises and protected them against possible damage.

The 10 audit boards are organized in a central association known as the Head Federation of Non-Profit Housing Enter-

prises in the Federal Republic of Germany, which comprises the following 2,095 enterprises (31.12.1968)⁵ :

- 1.436 Co-operative housing societies
- 563 Limited Liability companies
- 63 Stock companies
- 33 Other enterprises.

The Head Federation, which is the association of the regional federations, operates in accordance with the Co-operative Law and is politically and professionally independent.

The tasks of the Head Federation, apart from representing the interests of the non-profit housing enterprises, are follows:

1. to develop, promote and extend urban and rural housing in all its forms, paying particular attention to social housing and the co-operative spirit;
2. to represent the interests of all members and institutions of non-profit housing and co-operative societies;
3. to assist non-profit housing enterprises with the business administration and to prepare regulations regarding different types of contracts for the construction, management and custodial services of housing units;
4. to promote professional education of the personnel employed by housing enterprises and the training of the junior staff;
5. to supervise the controlling activities of the Audit and Control Boards, to assist them by issuing regulations and encouraging an exchange of experience by organizing study groups and similar activities;
6. to undertake and evaluate studies and research in the fields of housing and buildings;
7. to fulfil miscellaneous functions in the domain of housing.

The Head Federation further endeavours to promote specia-

⁵Gesamtverband gemeinnütziger Wohnungsunternehmen 5 Cologne—Breslauer Platz 4—Germany.

lized training of employees in housing enterprises and training of young people.

For the interchange of experience and information, the Head Federation issues periodicals, yearbooks and other publications, which are also intended for the wider public;

Active participation of member organizations is achieved through the various bodies of the Head Federation.

The Congress of the Head Federation is an assembly of the member federations and of 120 delegates of the housing enterprises affiliated to these member federations. The Congress determines the principles of non-profit building in the fields of housing policy and housing economy. It elects the president of the associative committee as well as the members of the executive board. The congress also approves the budget.

The associative committee has consultative and controlling functions. It consists of 28 members who are elected by the delegates of the housing enterprises. The committee deliberates questions of housing policy and housing economy and prepares resolutions to be passed and the principles to be determined by the congress of the Federation.

The executive board of the Top Federation consists of a Director and six honorary members: two represent the co-operatives, two the societies and the other two come from the audit and control boards.

The democratic structure and policy making of the organization is guaranteed by close contacts between the Head Federation, the member-federations and the individual enterprises. Contacts with practical and daily issues confronting the enterprises are also maintained and promoted through study groups and experts' committees as well as the conferences of housing co-operatives and the non-profit housing societies.

The structure secures the important position of non-profit housing with the economy as a whole, and enables the Head Federation to represent its members independently in the capacity of legal adviser and expert.

(c) Central Co-operative Facilities

The central co-operative institutions which were established mainly for reasons of cost reduction and greater efficiency, serve

not only housing co-operatives but also other types of non-profit housing enterprises.

Housing Association Banks

Housing Association Banks serve as credit institutions for the housing co-operatives. The two housing banks existing today are themselves in the legal form of co-operatives and are members of the auditing boards. They are owned by various non-profit housing societies, municipalities and mortgage banks and extend their services to other types of enterprises and even individuals.

Building Materials Centres

Two Building Material Centres, exist today. The centres were established for joint acquisition of building material in order to attain price reduction for members.

The Trust Companies

The Trust Companies attached to each of the 10 auditing boards, are regional institutions of the boards which offer advice to member enterprises on problems of administration, business management and financing. The trust companies may render their members other services, such as taking charge of book keeping, auditing on behalf of the supervisory board, promotion of credits and securing savings deposits and other loans.

The Guarantee Association

The Guarantee Association is an institution in the legal form of a co-operative owned by various non-profit housing enterprises and the auditing boards. The task of the association is to guarantee by sureties, credits raised by their members from a third party, and thus extend and improve the credit basis of the non-profit housing co-operatives.

Local Associations

Local Associations of the non-profit housing enterprises have been established in growing numbers in the last few years. Some of them are only communication and co-ordination centres, while others act in close co-operation on questions of business administration and town planning.

IV. THE LEGAL FRAMEWORK

By their nature and aims, the co-operatives as well as all other non-profit housing enterprises accomplish tasks which are within the State's spheres of interest. Consequently, the State ought to regulate the activities of the enterprises and provide the necessary framework for their proper functioning, while simultaneously granting privileges which enable a better execution of their tasks.

The principles granting legal status to non-profit housing in Germany were prescribed in a decree of 1930, which established non-profit housing on a uniform legal basis. Consequently official recognition of an enterprise as non-profitable implied a permanent supervision of the non-profitable nature and business activity of the enterprise. Then years later followed the Law of non-profit Housing. In its essential, the law came to safeguard the non-profit character of the enterprises to promote the construction of small dwelling units. For acquiring the legal status of non-profit enterprises, the following relevant conditions were stipulated:

- (a) Permanent construction of dwelling units: an interval in building requires the consent of the authority. The purpose of this regulation was to prevent non-profit housing enterprises from cessation of building activities after the founders acquired housing.
- (b) Appropriate rent or sale price of apartments and houses according to fixed criteria. These criteria apply to the costs of construction and administration too.
- (c) The use of surpluses and equity capital, for which several regulations are prescribed. Non-profit housing enterprises may distribute to their members or shareholders, a dividend of up to 4 per cent on the paid-up equity capital. The capital accumulated through the non-distributed profits remains permanently within the enterprise and is used for non-profitable aims. If a member or share-holder withdraws, only the paid-in share capital is paid back to him. In case of liquidation of an enterprise, the assets remaining after repayment of obligations, must be used for non-profitable aims.
- (d) The sale of buildings, constructed by the non-profit enterprise for speculation and resale, is prevented by the Law.

- (e) Restriction of the dwelling unit's size to fixed dimensions, so that lower income groups will be able to afford the rent.
- (f) The non-profit housing enterprise may not depend predominantly on people in the construction industry.
- (g) The enterprise must belong to a regional association and allow regular audits by the association.

The Non-profit Housing Law has thus ensured that no individual could take specific advantage through the activities of the enterprises. A non-profit housing enterprise could be classified as such and enjoy the benefits granted by the corresponding law, only if it answers certain conditions and requirements.

The term—"non-profit housing enterprises" (or housing enterprises for the public benefit), is conceived as the continual and permanent building of dwellings appropriate with regard to size, price, method of provision and other conditions to those who cannot afford housing in competitive market conditions.

Non-profit means also a continuous orientation and binding of the property to the provision and tasks of non-profit housing.

Consequent on its task of providing public services, the enterprise which has been recognized as non-profitable, enjoys some tax exemptions or concessions. Among them are the profit tax property tax, land purchase tax, corporation tax and local business tax. Other taxes must be paid by non-profit housing enterprises, just as by others.

It should, however, be stressed that these tax exemptions and reductions granted to the housing co-operatives and other non-profit housing enterprises are actually no privilege, since the total property as well as the net income of the enterprises, are constantly re-applied for non-profitable aims and tasks, thus contributing to the promotion of the public welfare and benefit.

V. POSSIBLE APPLICATIONS TO DEVELOPING COUNTRIES

The advantages offered by co-operative and other non-profit housing institutions are not limited to the construction of housing only, but have a far reaching effect on social, economic and

political conditions, as indicated by the experiences of the industrialized countries. Non-profit housing may :

- (a) Assist these groups of the population which for various reasons could not acquire decent housing without support through self-help methods.
- (b) Develop saving consciousness, habits and machinery.
- (c) Promote industrial and economic development, through increase of housing, with its multiplier effect on other sectors, and thus help to reduce unemployment and underemployment.
- (d) Further urban and regional planning.
- (e) Create a healthy urban and social environment by improving hygienic educational and other conditions as well as raising the standard of living, and
- (f) Offer and develop community facilities.

4. PLANNING AND IMPLEMENTATION OF A HOUSING SCHEME

N. A. KULARAJAH

Planning and implementation of a housing scheme should conform with the provisions of the by-laws of housing co-operatives and the laws and rules governing the co-operative societies. The procedure laid down here in respect of the development of housing schemes is normally practised by the housing co-operatives in Malaysia which construct houses and transfer them to their members when they have paid in full the cost of the property together with the interest and other dues.

PROCEDURE

(i) The first step in planning and implementing a co-operative housing scheme is to select the participants of such a scheme. Care should be taken to ensure that adequate number of members come forward to participate in the housing scheme. Their selection, in case there are more persons than required for the scheme, should be in accordance with their seniority, as mentioned in the membership register.

(ii) Utmost care should be taken in the selection and acquisition of land to ensure that the land proposed to be purchased is suitably located, reasonably priced and can be sub-divided into lots as desired.

(iii) If it is decided to acquire the land, inform the participants conveying to them the likely cost of building lots and the development charges. Request payment for the lots as stipulated in the By-laws within a certain period. The society should enter into the negotiation with the vendor. Purchase the land in question by entering into a written agreement (use the services of the Society's Legal Adviser). Also consult the Society's architect regarding the suitability of the land estimated as accurately

as possible and then particularly whether it can be sub-divided. On payment for the land, have the land transferred to the Society.

(iv) Once the land is acquired, the Society should get a lay-out plan prepared by a competent architect and get the plan cleared by the appropriate authorities.

(v) When the lay-out plan is approved, participants should be informed and their confirmation obtained in writing as to their willingness to participate in the scheme. The architect should be instructed to design four or five types of houses to suit the financial capacity and the preferences of the participants.

(vi) The plots may then be allotted to the participants. If the society considers it desirable, it may refrain from doing so until the houses are completed. The procedure to be followed in this regard would depend upon the type of the housing society. There are merits and de-merits in both types of procedures. If participants are allotted land before the houses are constructed, they may take more active interest in the society. On the other hand it can lead to numerous problems in construction since a member may insist on many variations from the standard design.

(vii) Before acquiring the land the society should negotiate for loan for development of the scheme. When entering into an agreement for the loan, it is important to obtain the services of a legal adviser. No building project should be ventured into on the strength of any uncompleted loan transaction or on the assumption that the loan would be forthcoming.

(viii) When the designs are ready, the participants should be provided with an opportunity to select the types of houses. They should be guided in this matter. The earning and repaying capacity of the participants should be taken into account. The estimated cost of the houses should be indicated. Suggestions for alterations and amendments should be welcomed but should be kept to the minimum. The designs should be displayed in the society's office. Once the selection is completed, the architect should be instructed to submit the plans and designs to the Authority for clearance.

(ix) When the plans are approved and the society is ready to commence the development of the housing scheme, participants should be requested to make down payments within a stipulated period as required under the by-laws of the Society. Care

should be taken to see that these payments are not demanded earlier than necessary. Should there be any undue delay in the commencement of the scheme, problems will crop up. Disatisfaction will arise leading to unnecessary disputes and troubles. The participants should also not be allowed to delay the payments, because such delays will hold up the smooth operation of the building project.

(x) At this stage, the society should invite tenders from the contractors, preferably through the medium of the press, for the completion of the scheme. Details of the scheme and all necessary specifications and other instructions, such as the amount of tender deposit required, should be provided to the would be tenderers. The management committee should decide, in consultation with the society's architect, as to whom the tender should be awarded. Before taking this decision, the management should ascertain whether the rates quoted conform to the market rates and check on the competence, financial status and the background of the contractor. The agreement entered into with the contractor should stipulate, among other things, the period within which the work should be completed, and lay down a penalty for non-observance of any of the provisions of the contract. As a further safety measure, guarantee should be obtained from the contractors' bankers, or from an insurance company that the work should be completed as contracted.

A clause regarding contractor's liability for one year after the completion of the buildings should be incorporated in the contract.

To avoid suspicion in the minds of the participants about the award of contracts, it may be desirable to invite them to be present at the time of opening and considering the tenders, and also to inform them of the terms and conditions of the contract. Such a practice would be feasible in the case of a small housing scheme.

(xi) When the construction work commences, the Society should see to it that

- (a) The work is supervised by the Society's architect,
- (b) If the scheme is large, a work clerk may also be employed,
- (c) The members of the management committee should take turns to visit the construction site and ensure that the

work progresses smoothly.

- (d) The funds are available for making prompt payments to the contractor as stipulated in the contract.
- (e) If the sites are already allotted to the participants some of them may want certain alterations done in the original plan of the house. Such alteration if asked for by the participants should be left to be negotiated between the participants and the contractor. The cost of such changes should be borne by the concerned participants and charged immediately. Frequent changes should not be allowed as that would delay the completion of the housing scheme.
- (f) No payment is made without properly ascertaining that the part of the work for which payment is to be made is satisfactorily completed.

(xii) When the houses are completed in accordance with the specifications and to the satisfaction of the municipal authorities, the contractor should be asked to obtain the completion certificate from the authorities concerned. Final payment should be made to the contractor only after the completion certificate is received.

(xiii) On receipt of the completion certificate, the houses should be handed over to the members, after obtaining the necessary agreement. The agreement with the members should stipulate, among other things :

- (a) the periodic instalment to be paid in settlement of the loan.
- (b) a condition that the house will be repossessed by the society in the event of failure to pay instalments on time.
- (c) a condition that houses will be maintained in good condition by the participants, and also that they obtain insurance covers for the properties against all types of risks. Life insurance should be taken by the member to the value of the loan obtained by him.
- (d) a condition that the participants should report within six months any defects in the construction so that the society could get them rectified within the stipulated period at the expenses of the contractors. For this purpose, the

society is entitled to withhold a sum not exceeding 10 per cent of their contract price for a period not exceeding six months.

(xiv) As soon as the scheme is successfully implemented, the society should take immediate initiative to hand over the roads and objects of public utilities to the authorities concerned for future maintenance. If the houses are not allotted, then the society should take steps to allot them in accordance with the provision of the By-laws.

(xv) Before members occupy the homes they should be requested to sign the memorandum of lease or such similar agreement whereby they agree to repay the loan together with the interest due thereon over a period of 10 or 15 years as the case may be, failing which the property will be re-possessed and passed on to other members. They must agree to maintain the homes in good order and to cover the property with insurance against damages by fire, flood and other types of perils including civil commotion and riots. The Society will take steps to obtain the insurance cover during the period of the loan and the recovery of the cost from the participants. Likewise, the Society will carry out repairs, if required, during the period of the loan and recover the amount due from them.

(xvi) Establish a committee amongst the members in the housing estate to look after matters concerning their welfares, recreation, health and sanitation, security etc. and generally to take up matters of common interest with the management committee.

(xvii) The Society should commence to recover the dues from the participants promptly and when the amount of the loan is fully settled together with interest and other dues, the society should immediately take steps to transfer the property to the participants subject to the minimum period of ownership as provided for in the by-laws.

5. ROLE OF CO-OPERATIVE THRIFT AND LOAN SOCIETIES, CO-OPERATIVE BANKS AND INSURANCE SOCIETIES IN THE DEVELOPMENT OF HOUSING CO-OPERATIVES

G. S. DASS

The subject matter of this paper is based to a very large extent on the experience and knowledge gained in the promotion and development of Housing Co-operative in Malaysia. It is appreciated that the trend and the manner of development of Housing Co-operatives may differ from country to country depending on the nature and pattern of development of the Co-operative Movement as a whole in the respective countries. The extent of success in the development of housing co-operatives will depend on a variety of factors, such as the stage of development of the movement as a whole, the magnitude of the problem of housing, the degree of support forthcoming from the authorities, the general educational background and the standard of living of the people, the availability of land and money, the availability of building materials, the extent to which the societies are capable of tackling the problem, the degree of collaboration and support from the other Sectors of the Movement and finally the length of time that the societies are engaged in the enormous task of developing housing schemes for their members.

Housing Co-operatives came into the picture in Malaysia for the first time in 1949. They were in existence in India much earlier and there are no housing co-operatives as yet in many Asian countries. The development of housing through the co-operative method has taken different forms in different countries to suit the economic and social conditions prevailing in those countries. In Malaysia, housing co-operatives aim at providing their members with suitable housing accommodation at reason-

able cost and on easy terms of payment and when the cost of the properties are fully paid including interest and other dues, then the homes are transferred to the members who then enjoy full and complete ownership of the homes. Other types of housing co-operatives are not popular in this country and, furthermore, private building agencies and colonisers operate in the manner indicated above and therefore housing co-operatives cannot hope to do otherwise if they are to remain in the business of housing construction.

In Malaysia, Co-operative Thrift & Loan Societies have been largely instrumental in initiating the establishment of different types of co-operative ventures in the urban areas. Representatives of thrift and loan societies along with those of other sectors, meet annually in a conference and at these conferences decisions are taken to establish new co-operative projects. The establishment of housing co-operatives was the outcome of the decision of one of the conferences held soon after the Second World War. The Malaysia Co-operative Insurance Society and the Co-operative Central Bank likewise came into being as a result of the decisions of these conferences. It will, therefore, be observed that the other types of Co-operative organisations have been established on the strong foundations of thrift and loan societies. Thrift & Loan Societies, before the War and for some years after, were operating in a parochial manner, and were interested only in their welfare and that of their members, and were not concerned with the development and expansion of the Co-operative Movement as a whole. Their attitude began to change and they felt that they had a moral obligation, though not a legal one, to assist the other sectors of the Co-operative Movement. The gradual influence of the Co-operative Union of Malaysia and the contracts established with the Movements in other parts of the world might have contributed to this changed attitude.

Thrift and loan societies, with their large coverage, and with large financial resources at their disposal can contribute substantially towards the expansion and development of the Co-operative Movement. Besides these societies, the Malaysian Co-operative Insurance Society, which is now a flourishing concern, can play a vital role in the further expansion of the Co-operative Movement. The Co-operative Bank, which is now re-organised, is also in a position to play its part effectively in the healthy growth of

the Movement. This being so one may be tempted to conclude that finance is not a problem for housing co-operatives in Malaysia. The conclusion may be correct to some extent but by and large the problem of finance is a pressing one. Housing co-operatives are continuously confronted with this problem. Several housing co-operatives are unable to make any headway at all. Lack of adequate funds has slowed down the rate of progress in several societies. Housing schemes are developed after long intervals, thus causing frustration amongst the members. Securing long term finance is a difficult matter. There are very few financial institutions in the country which are interested in providing this type of credit. In any case such sources are no longer available to housing co-operatives. Commercial banks are reluctant to grant long term loans.

Obtaining short term loans would entail the members making heavy repayments thus causing hardship. Furthermore Commercial Banks generally advance only up to 50% of the value of the properties. Securing funds from Commercial Banks for the development of housing schemes under these conditions is therefore not in the interest of the Societies and their members. Although Government has made funds available in two instances in the past, it is most unlikely that funds will be forthcoming from this source, especially as the Government has itself introduced a home ownership scheme for its employees. The Employees Provident Fund Board is an excellent source from which to obtain long term finance. Unfortunately, housing co-operatives are not able to do so. The E.P.F. Board did provide loans to housing co-operatives in a few instances in the past but it is unwilling to do so now on the grounds that the law that governs the investment of funds of the Board does not permit it to invest in co-operative undertakings. Repeated attempts to obtain reconsideration of this decision has not yet yielded the desired result even though it was stressed that members of housing co-operatives, being salary earners and workers, were contributors to the Fund and as such the request of the co-operatives should merit some special consideration. It will, therefore, be observed that housing co-operatives have to depend heavily on the other sectors of the Co-operative Movement for funds. Can the other Sectors of the Movement help? They can, under certain conditions, and with certain limitations. As indicated earlier, the

sector as represented by Thrift & Loan Societies, the Malaysian Co-operative Insurance Society and Co-operative Central Bank are the organisations within the Movement at the moment that are in a position to assist. What are the conditions under which these organisations are likely to consider granting loans to housing co-operative?

They are:

- (a) Housing co-operatives should be efficiently, honestly and properly managed.
- (b) The housing scheme envisaged should be viable, practicable and manageable. The schemes should not be over-ambitious and should be within the capacity of the societies to handle.
- (c) The portion of the cost of the development of the scheme, as stipulated in the constitution, should be available with the societies in the first instance, i.e. the cost of the land and the initial down payments should have been recovered from the members.
- (d) The Societies should provide adequate security for the loan.
- (e) The rate of interest payable should be such as to compare favourably with that prevailing in the money market.
- (f) The management of the Co-operatives should be in the hands of people of integrity, sincerity and honesty of purpose who should be competent to manage the affairs of the societies effectively.
- (g) The records of the societies should be clean. Any damage done to the reputation and image of societies as a result of malpractice or mismanagement will completely erase the possibility of raising loans. This will affect not only the particular society involved but also all other housing co-operatives.
- (h) Repayments in respect of previous loans to lending institutions should have been maintained promptly in accordance with the loan agreements.
- (i) The societies should operate satisfactorily in accordance with their constitution, holding their general meetings at the appropriate time, having the accounts audited and presented to the members annually and generally carrying on

the activities of the societies to the satisfaction of the members.

Housing co-operatives that fail to fulfil the conditions stipulated above will find it well high impossible to raise loans even from within the Movement. Having discussed the conditions that are to be fulfilled before loans could be considered, let us examine the limitations within which the other Sectors of the Movement could help in the matter of providing long term loans to housing co-operatives.

Thrift and loan societies are essentially short-term credit organisations and as such they can prudently invest only a certain portion of their funds in long-term investments. They must have adequate funds in readiness to meet their obligations. Thrift & Loan Societies also provide mortgage loans up to a certain limit to encourage home ownership among their members and the loans are granted for periods extending from 10 to 15 years. Although the thrift & loan societies together possess a working capital of nearly M\$200,000,000/-, only a proportion of the amount is available for investment. Several Thrift & Loan Societies have already invested substantial portions of their surplus funds in gilt-edged securities, thus making it difficult for them to entertain loan applications from housing co-operatives. It is true that the assets of the Societies are increasing by 15% each year and therefore there is a possibility of their accommodating housing co-operatives with limited finance. A number of large thrift and loans to housing co-operatives for the development of small sized housing projects ranging from M\$300,000/- to M\$1,000,000/- at the very most.

The Malaysian Co-operative Insurance Society is in a much better position to invest its funds in long term loans. The MCIS has several commitments to meet. It has to provide loans to policyholders, grant mortgage loans up to M\$45,000/- each to policyholders under its home ownership scheme, venture into several agricultural and industrial development programmes with a view to providing better bonus rates to its policy holders to diversify its investments and also at the same time to provide greater employment opportunities for the people in the country. The MCIS has already provided long terms loans to several housing co-operatives. The surest way of securing finance from

MCIS is for housing co-operatives to conform with the conditions stipulated under the MCIS Home Ownership Scheme and in this manner obtain funds for the development of housing schemes for their members.

The Co-operative Central Bank also provides long term finance to housing co-operatives but these loans have to be kept to a limit. The Bank has to maintain a certain liquidity position. It cannot invest its entire funds in housing on long term basis. The requirements of other sectors of the Movement should also be considered. In addition, the Bank also operates homeownership scheme for its individual members.

One can therefore appreciate the fact that the Thrift & Loan Societies, the MCIS and the Co-operative Central Bank do provide loans to housing co-operatives within certain limits. Until the position improves, or new sources of finance emerge, the housing projects initiated by housing co-operatives should be of such a size that the financing of them could be obtained without difficulty from sources within the movement itself.

It is imperative for housing co-operatives to give serious consideration to the size of housing schemes envisaged. Housing co-operatives should never be tempted to venture into large projects far beyond their ability to handle. Housing co-operatives should not undertake the development of large housing schemes merely to out-do others or on prestige considerations, nor should they venture into housing schemes on the strength of any uncompleted loan negotiation or by taking chances that funds would be forthcoming. Such a plunge may in all probability end in disaster.

6. ROLE AND ACTIVITIES OF APEX ORGANIZATION IN PROMOTING AND DEVELOPING CO-OPERATIVE HOUSING

LIONEL GUNAWARDANA

The need of an apex organisation for the effective functioning of a co-operative complex in any economic activity is universally recognised. In punctuating the potency of an apex organization in the whole co-operative scheme, the problem is not so much impressing the need for such organizations as it is of demonstrating their efficacy.

It is the intention of this paper to pave the way for the appreciation of the role of an apex organization for housing co-operatives and to spell out some of its functions.

An apex organization of housing co-operatives, as is the case with other co-operative apex organizations, is an integral part of the housing co-operative complex.

When this fact is recognised, the role an apex organization should play to achieve the overall objective of the development of co-operative housing can be clearly visualized. When an organization is a part of a system naturally it has to work in combination with the other parts with which it combines to form the whole system. Therefore, obviously, an apex organization of co-operative housing has to work in combination with the primaries which constitute the other cogs of the co-operative housing system. By virtue of its national status and the position of influence it holds over the primaries, the role of an apex organization should be primarily intended to bring about integration, both horizontally and vertically of the activities of the primary societies.

It should work for the furtherance of the activities of the

primary societies which are the basic units of the co-operative system. Its task is to complement and support the activities of the primaries and not to replace them. It should play the role of a co-ordinator, a promoter and a supporter of the activities of the primary societies which it seeks to serve.

There is no simple rule for division of labour between primaries and apex organizations. The division should be so made as to increase the efficiency of the whole co-operative system. The division, one might hope, should be in accordance with some principles with respect to specialisation, investment as well as to bargaining power, research and education.

FUNCTIONS

The functions of an apex organization depends on its assigned role. Obviously, therefore, it has to perform all the functions that are conducive to effective discharge of its role as a promoter, co-ordinator and supporter.

The following discussion of the functions of the apex organization, therefore, should not be treated as exhaustive. It should rather be treated as an informative guide to the pertinent activities an apex organization has to undertake.

PROMOTIONAL

One of the most important tasks of an apex organization is to work for propagating Co-operation. In doing this, organizing of new primary societies for persons who intend acquiring dwellings through the co-operative method is a primary task that falls on an apex organization of housing co-operatives. An apex organization should not only be well equipped to give guidance and other assistance in organising and registering new housing co-operatives, but it should also be equipped to carry the message of Cooperation to the general public so as to give them insights into the possibilities of solving the housing problems through co-operatives and to create an enthusiasm in them for adoption of co-operatives method in solving those problems.

An apex organization is the best suited body to advise the new co-operatives regarding their by-laws and rules. For this purpose, it can frame model by-laws and rules. The apex organization can also advise the new societies as to the desirable

structure for their effective functioning and in planning their future programmes with regard to savings, house building and other activities.

PROVIDING TECHNICAL AND LEGAL SERVICES

The primary housing co-operatives by virtue of their size and resources cannot employ full-time technicians for valuation of land, planning housing projects, designing houses and supervising their construction. If these services are not provided for them by an apex organization they have to turn to private technicians or firms to obtain these services. This can be very costly, thereby increasing the unit cost of dwellings, and the experience gained in valuation of land, planning projects, designing houses and supervision of construction by the technicians is lost to the co-operatives. If this experience is retained within the movement, it would be an asset for future building activities.

Therefore such technical services should essentially be provided by an apex organization for the benefit of the primaries as well as of the whole co-operative system. The experience gained in this field will be invaluable for developing new building techniques to improve the quality of construction and to reduce costs. The provision of these services from a centralised source would also enable standardisation of building designs, which would ultimately result in economies with regard to the use of building materials.

Provision of legal advice and other legal services is another important service that should be undertaken by an apex organization. The co-operative housing societies, more than any other type of co-operative societies, require this service as various legal procedures are involved in their activities, such as acquiring land, drawing up of agreements between the society and its members, financiers and building contractors. The necessary legal advice and services can be obtained economically if the apex organization maintains such legal services.

MANUFACTURE AND SUPPLY OF BUILDING MATERIALS

Manufacture and supply of building materials is another activity that can be undertaken by apex organizations. The cost

of building material constitutes a major portion of the cost of constructing a house. Therefore activities that can be undertaken by an apex organization to reduce this cost to the society would significantly influence the building costs of houses. Obtaining the proper quality of building materials at reasonable prices is often difficult. A regular supply of these materials is important to ensure smooth construction work. A delay in supply would not only disrupt construction schedules but would also result in idling labour and extension of building time, and a consequent increase in the cost of construction.

The apex organization can purchase building materials in bulk and maintain sufficient stocks to ensure their regular supply.

Such bulk buying would give the apex organization a strong bargaining position with the manufacturers and suppliers. This bargaining power can be used not only to influence the purchase price but also to lay down conditions with regard to the quality and standards of the material to be purchased. If sufficiently large quantities are purchased regularly there is also the possibility of influencing the manufacturers to produce building materials of particular designs which the co-operatives may find particularly suitable for them.

The apex organization, especially when it reaches an advanced stage of development, can also undertake the manufacture of certain building materials and components, such as bricks, tiles, asbestos, doors and windows. This might result in further reduction in the cost of building materials. It would also help to achieve a degree of standardisation with regard to planning and designing of dwellings which would result in reduction of building costs by minimising waste of labour, material and construction time.

Manufacture of kitchen equipment and furniture is another field in which apex organizations can profitably engage.

Manufacture and supply of building materials could either be undertaken by the apex organization itself, or subsidiary organizations owned by it, can be created to undertake these activities.

FINANCING

Finding adequate resources for financing housing project is a major problem faced by housing co-operatives. An efficiently run

apex organization can be of great assistance to primary housing co-operatives in procuring funds for their house building activities. Its national position and greater resources would naturally make it more acceptable to financing institutions. Therefore, it would be in a stronger position to negotiate for finance. It can either borrow from lending institutions and re-lend to primary co-operatives, or act as an underwriter, thereby making primaries more acceptable to lending institutions.

An apex organization can also operate savings funds in collaboration with member societies, and this can be a ready source of finance for co-operative housing.

RESEARCH

An apex organization with its larger resources of funds and personnel is a suitable body to undertake research in planning, designing, use of material and building techniques. Experience gained in assisting primaries with regard to planning, designing and construction work would be of invaluable help in research, which can be undertaken either by the apex organization itself, or in collaboration with governmental research organisations for housing.

Translating results of research into practical applications is of the utmost importance. There would be ample possibilities for a apex organization which co-ordinates and assists the building activities of a large number of primaries to translate such research findings into practical application.

MANAGEMENT GUIDANCE

Considerable attention has been given of late to the field of management guidance. The fact that good management is the key-note in the success of any co-operative undertaking is increasingly recognised.

An apex organization can assist the primaries in this field by issuing management bulletins, training employees and officials of housing co-operatives and providing accounting and audit aids.

EDUCATION

Educational activities of housing co-operatives as in other

co-operatives should be directed towards (a) the general public, (b) members, (c) officials and employees.

The propagation of Co-operation and the bringing within its fold of the largest possible number of persons, with economic problems which can be solved by the co-operative method, is the responsibility of every co-operator and co-operative organization. Therefore every attempt should be made to bring to the general public, knowledge about Co-operation and the possibilities it offers in solving their economic problems.

Secondly, the members of housing co-operatives should be educated not only in the principles and practices of Co-operation, but in community living, simple techniques of house maintenance, interior decoration etc. Continuous dissemination of such knowledge and information to members would help them in their daily life and would also help to create and maintain member interest in, and loyalty to, the co-operative.

The mass media—Press, radio films etc—could be effectively use in the dissemination of knowledge to the members and general public.

Thirdly, education should be directed at the officials and employees of housing co-operatives. Most of the employees of housing co-operatives have to be highly specialised technicians. They need regular training in their specialised fields if they are to keep abreast with new technological developments in their respective fields. The other employees and officials too need to be given training if they are to carry out their duties efficiently.

If an organization is to undertake educational work effectively, it should possess a high degree of specialised knowledge and training. It is only an organization which has at its command adequate resources of funds, men and material that can engage in effective dissemination of knowledge. There is no doubt that the primaries should play an active role in the dissemination of knowledge to their membership. But the responsibility for preparing educational material, organizing higher level training courses and running national training institutions, for assisting the primaries in educating their members and employees, logically falls on the apex organization.

FORMATION OF AN APEX ORGANIZATION

The development of an apex organization can take place in

two main ways. The first and the most common way is that primary or secondary societies band themselves together to form an apex organization to carry out activities which they cannot undertake severally or that can be better performed by an apex organization. This method is the logical and conventional pattern of development in a co-operative system.

The second way is almost the reverse procedure. In this method a national level co-operative organization is formed first in a particular field of co-operative activity. This organization encourages and assists in the formation of co-operative societies at the primary level, which later become members of the national level organization thus making it their apex organization. The second method may be adopted in countries which are new to Co-operation, and where the development of primary co-operative societies has not taken place. This method may also be adopted for the development of Co-operation in a particular sector in countries where Co-operation is undeveloped in that sector but is developed in others. The national level organization has in certain cases taken the form of a government corporation with provision for converting itself into an apex co-operative with primaries or secondaries as members. An example of this could be found in Iran where the government has established a corporation called the Central Organization for Rural Co-operatives for the promotion of multipurpose co-operatives in the rural sector. The intention is to convert this corporation into an apex organization in future. In a country where co-operatives are developed in certain fields of economic activity, but not in others, the initial promotional body can be a department within an existing co-operative union or federation at national level, in a field of activity allied to the field in which new development is envisaged. For example, a consumer union may have a housing department with a view to assisting the formation of primary housing co-operatives. Later on this department may be the basis for establishing an apex organization for the housing co-operatives. For example, in Finland the Co-operative Union KK has a housing department which acts as the unofficial apex organization for housing co-operatives.

7. GOVERNMENT POLICY FOR DEVELOPMENT OF HOUSING AND CO-OPERATIVE HOUSING IN INDIA : Land Allotment, Finance, Legal Framework and Services of Government Personnel

D. D. N A I K

INTRODUCTION

The Magnitude of the Housing Problem

In the spectrum of basic human wants, housing comes next in importance only, to air, water, food and clothing. It also provides the much needed social infrastructure for a country, and deserves to be attended to seriously by any government. Despite the efforts made by the Government of India, since Independence, to tackle the country's housing problem, the shortage of adequate housing for the lower income groups in both the towns and villages is still acute. The main causes which have brought about the deterioration of the housing situation can be enumerated as under:

1. Although India was not in the zone of operations during the Second World War, virtually the whole building industry was paralysed for a long period;
2. The refugee problems caused by the partition of the country further aggravated the situation;
3. The increase in urban and rural population and the growing industrial development created more demand for housing;
4. The increase in prices of building materials and labour

since the War made the construction and supply of new houses more difficult.

It is estimated that at the commencement of the Fourth Five Year Plan there was an overall deficit of 74.1 million of houses—11.4 million in urban areas and 62.7 million in rural areas.

These estimates were given in the annual report for 1966-67 of the Government of India, Ministry of works, Housing and Supply, New Delhi.

Government Policy for Development of Housing

The aim of the government housing policy is to promote construction of houses and relative community facilities with a view to ensuring decent housing accommodation and a suitable living environment to all the workers and their families and to such classes of people as cannot afford to construct houses by their individual efforts.

The Central agency responsible for all aspects of housing programmes is the Ministry of Health and Family Planning and Works Housing and Urban Development.

At the State level, there are State government departments of housing which are responsible for the formulation and implementation of housing programmes.

The different measures taken by Government in pursuance of its policy for development of housing are as under:

1. Formulation and implementation of Public Sector Schemes for the benefit of selected sections of the community.
2. Utilisation of funds of semi-public institutions like the Life Insurance Corporation of India and Employees Provident Fund for financing house construction.
3. Promotion of institutional finance for housing by constituting an appropriate institutional set up at National and State level.
4. Introduction of new techniques and materials in construction to effect reduction in costs.

A review of the various schemes under implementation will

help in a proper appraisal of the Government policy for the development of housing.

Public Sector Schemes for the Benefit of the Selected Sections of the Community

These schemes are intended for the improvement of housing conditions of persons belonging to the low and middle income groups. Since 1952, the following social housing schemes have been put in operation for providing financial assistance to intending house builders and for construction of subsidised rental houses. The schemes have been in operation from the years noted against them:

(i) Subsidised Industrial Housing Scheme	1952
(ii) The Low Income Group Housing Scheme	1954
(iii) The Plantation Labour Housing Scheme	1956
(iv) The Slum Clearance and Improvement Scheme	1956
(v) The Village Housing Project Scheme	1957
(vi) The Middle Income Group Housing Scheme	1959
(vii) The Land Acquisition and Development Scheme	1959
(viii) The Rental Housing Scheme for State Government Employees	1959
(ix) The Jhuggi and Jhonpri Removal Scheme (in Delhi)	1960

The bulk of the funds for these schemes is provided by the Government of India and the Life Insurance Corporation of India. The Central Government exercises overall control but actual implementation of the schemes is done in the States by the respective State Governments and their agencies and in the Union Territories by the local administrations and local bodies. In implementing the above schemes, the elements of 'loans' or 'subsidies' or both, are integrated. For example, for the subsidised Industrial Housing Scheme, the Central Government provides to the States, State Housing Boards and Local Bodies 50 per cent of the cost of a house or housing project as 'loans'. Industrial employers and co-operatives of workers are given loans to the extent of 50 per cent and 65 per cent respectively of the prescribed cost of the house or house project. Under the Low Income and Middle Income Schemes, loans upto 80 per cent of

the cost of dwellings are available to individuals, co-operatives, local bodies, public institutions and recognised health, charitable and educational institutions. In the case of village housing, for villages in a group of four to six, lay-out plans are prepared and loans up to 66 per cent are given for building houses as well as for carrying out improvements in existing houses, the remaining one-third of the cost is provided through 'self-help' and locally available materials.

Achievements in the Third Five Year Plan

A total provision of Rs. 1,220 million was made from the Plan funds in the Third Five Year Plan for the various housing schemes. This was supplemented by a sum of Rs. 600 million provided by the Life Insurance Corporation of India. The details regarding government expenditure on account of various housing schemes are discussed later.

The following table indicates the number of tenements estimated to have been built by 1968-69:

NUMBER OF TENEMENTS BUILT BY 1968-69

S. No.	Scheme	Year of intro- duction	Tenements built by 1968-69
1.	SUBSIDISED HOUSING SCHEMES	—	2,35,179
	(i) Subsidised Housing Schemes for Industrial Workers and economically weaker sections.	1952	1,65,623
	(ii) Slum Clearance and Improvement.	1956	69,556
2.	LOAN SCHEMES		1,72,271
	(i) Low Income Group	1954	1,35,196
	(ii) Middle Income Group	1959	19,040
	(iii) Rental Housing Schemes for State Government employees	1959	18,035
TOTAL OF SCHEMES 1 & 2			4,07,450

Utilisation of Funds of Semi-Public Institutions like the Life Insurance Corporation of India for Financing House Construction

The nationalisation of the life insurance business has given the Life Insurance Corporation a unique position in the financial, economic and social structure of the country. The nationalisation preamble lays down that the "Life Insurance Corporation will invest in ventures which further the social advancement of the country".

The Life Insurance Corporation of India is at present providing housing finance through Government schemes or through its own housing schemes. The finance provided by the Life Insurance Corporation of India for various housing Schemes was to the tune of Rs. 2,370.3 million till the close of 31st March 1970.

Promotion of Institutional Finance for Housing by Constituting an Appropriate Institutional Set-up at National and State Level

In pursuance of the recommendations of the Conference of Ministers of Housing and Urban Development held at Bangalore in June 1969, the Government of India, decided to constitute a Revolving Fund for housing and urban development with a corpus of Rs. 2000 million to be built up over a period of years from governmental allocations and other sources.

The fund will be utilised to finance economically viable projects which have regenerative features. The returns from the projects will be reinvested in further projects to ensure a continual increment of the initial capital and progressive building activity.

It has also been decided to set up a Housing and Urban Development Corporation for operating the Revolving Fund. The Fourth Five Year Plan has a provision of Rs. 100 million for the share capital of the Corporation.

In order to encourage and activate housing co-operatives the State Ministers Conference urged the States to establish Apex Co-operative Housing Societies. Already eight States have established such apex institutions. These apex institutions are to raise their resources by issuing State guaranteed loans and debentures. Where these institutions have been set up, the State governments have participated in their share capital and guaranteed the loans or debentures issued by them.

Introduction of new Techniques and Materials in Construction to Effect Reduction in Costs

The Government of India has already set up the National Building Organisation aims at achieving reduction in building costs through the promotion and co-ordination of research in building materials, techniques and designs. It disseminates useful information, conducts seminars and publishes journals on the application of building knowledge and the practical results of research.

Government Attitude towards Co-operative Housing

The government is relying heavily on the co-operative method in implementing its policy of trying to provide adequate housing for a large section of the population. The use of co-operative methods to provide housing is not however, new in India, since the earliest society of this type was established nearly half a century ago in Bombay with such success that it has served as a model and an inspiration for new co-operatives.

Despite this, the co-operative housing movement did not develop sufficiently to play a significant part in solving housing problems, during the 35 years which followed the founding of the first society. It was only from 1950 onwards that co-operative housing began to develop under the influence of the first three Five Year Plans. The Fourth Five Year Plan has also laid stress on enlarging the co-operative form of organisation especially for low and middle income groups.

The subjoined table shows the progress of housing co-operatives in India, during 1958-59 to 1967-68:

Although government is playing a significant role in relieving the house shortage in urban and rural areas, government efforts alone are not sufficient to solve the housing problem of the country. The pace of progress can be accelerated by using the housing co-operatives as trusted agencies for the purpose. These societies deliver the goods at less cost and with greater satisfaction to the community.

The housing co-operatives play an important role as self-help methods of solving the housing problem. They mobilise the resources of the members to the extent of 25 to 30 per cent. The collective security of the society enables it to raise loans on a

TABLE I

Sr. No.	Year	No. of independent tenements constructed		by members		No. of tenements constructed		
		No. of primary housing co-operatives	by societies value Rs. (in thousand)	No.	value Rs. (in thousand)	No.	value Rs. (in thousand)	
1.	1958-59	4739	4,116	2,19,90	17,385	10,92,66	22504	195942
2.	1959-60	5558	5,256	3,34,41	13,768	11,49,48	25526	217603
3.	1960-61	6451	2,766	2,28,50	11,187	7,70,73	18257	156573
4.	1961-62	7877	4,694	7,98,25	10,588	8,76,32	10754	68764
5.	1962-63	8903	9,382	8,23,70	12,167	9,90,66	9108	51574
6.	1963-64	9886	10,211	8,61,16	13,890	11,16,21	18952	289445
7.	1964-65	10975	13,414	11,49,20	14,450	10,18,05	6365	115131
8.	1965-66	11765	6,666	6,46,30	10,421	6,97,39	15218	22,73,52
9.	1966-67	12723	6,439	6,79,33	9,102	6,73,85	15571	51,21,56
10.	1967-68	13817	3,259	2,98,95	11,280	6 14,07	13,563	22,68,16

SOURCE : Statistical statements relating to the Co-operative Movement in India published by the Reserve Bank of India for different years.

NOTE : 7.50 Indian Rupees are equivalent to 1 U.S. Dollar.

long term basis. Although the housing co-operatives are selected as self-help methods, certain measures are required to be adopted by government to render support to the co-operative housing movement and thereby stimulate its growth.

Direct and indirect support given by the government to the housing co-operatives can be listed as under:

1. The Co-operative Department of Government guides the formulation and organisation of housing co-operatives.
2. Housing co-operatives formed of the selected sections of the community receive subsidies and loans from government for meeting the cost of construction of their members' houses.
3. The State Government subscribes to the share capital of the State level apex organisation formed by the housing co-operatives which provide finances to the primary societies.
4. The State Governments guarantee the loans and debentures issued by the apex bodies.
5. The mortgages and bonds executed by housing cooperatives are exempted from stamp duty and registration fees.

LAND ALLOTMENT

The increase in the population pressure in urban areas raises the demand for land. The accentuated demand for more houses moves up the land prices making it difficult for the low and middle income groups to purchase costly land. When immigrants arrive in cities without income and training, they raise largely ramshackle dwellings in unauthorised way or live in slum areas or sleep in the streets. The speculative rise in land prices has made it very difficult to meet the demand for new houses both in the cities and suburban areas. Any financial assistance given to the co-operative housing societies will not help ultimately to provide cheap housing or a house within a reasonable cost to the people of the middle class and low income groups, if suitable measures to bring down the prices of land are not adopted. In India, the land problem has already attracted government atten-

tion. The Planning Commission has therefore, made the following observation in the Fourth Five Year Plan:

“In growing cities of a reasonable size, it should be part of Government policy to encourage through proper planning and land policy, adequate supply of housing. In cities where the slum population is large, this approach would be effective and it would be necessary to try to ameliorate the living conditions of the dwellers of slums, as an immediate measure. Emphasis should be laid on limiting the rise in the prices of land, providing financial assistance to co-operatives and private effort and assuming legal powers for reconditioning of slums.”

The land problem in the housing sector is of three-fold nature :

1. The rise in land prices to a speculative level.
2. The dearth of developed land for housing.
3. Unauthorised occupation of available land and conversion of it into slums.

The State Governments acquire land for the purpose of the construction of houses by the State Housing Board. Land is also acquired by government under its inherent powers for the purpose of the development of land by the City Improvement Trusts (wherever they are constituted) and by the Metropolitan city authorities, part of which can be made available for housing purposes.

Government can acquire land for its public sector schemes. As no special legislation exists for acquiring land required by the housing co-operatives, they have to secure the same by private negotiations. The price of land is rising every day on account of the increasing demand for new houses.

Government is giving preferential treatment to co-operative housing societies wherever government land is available for allotment. City Improvement Trusts also allot land at their disposal to the co-operative housing societies. However, co-operative housing societies experience difficulties in securing land. Rising land prices together with the increase in the cost of building material and labour, make the construction of a house, a luxury for well-to-do persons.

There is a demand from the housing co-operatives for the

adoption of the following measures by government to check rising land prices:

1. Legislative measures to enable the State Governments to acquire lands for co-operative housing societies.
2. Municipal Corporations to earmark certain areas in Municipal lands for the purpose of co-operative housing societies and to give necessary assistance for sanctioning the plans and providing amenities like water, electricity, etc. to the co-operative housing societies.

The Government of India has appointed a Committee to examine the question of enacting suitable legislation for the purpose of acquiring land. The land problem has therefore already attracted government attention.

FINANCE

The greater bulk of residential construction in the country is undertaken by private individuals and enterprises, using their savings or borrowings from loan institutions. As a part of government efforts to improve the housing conditions of persons belonging to the lower and middle income groups, financing of housing plays an important part.

Housing co-operatives, both urban and rural have been organised and encouraged by government, as a part of government policy to mobilise private resources and promote house construction.

Available sources of finance for house construction in the country can be classified as under:

1. Government
2. The Life Insurance Corporation of India
3. Housing co-operatives and private sector investment.

Financing through Public Funds

At present there are nine schemes included in the Five Year Plans. Government expenditure on account of these schemes during the Third Five Year Plan was as under:

	(Rs. Million)
1. Subsidised industrial and housing	224.0
2. Low Income Group Housing	219.6

3. Plantation Labour Housing	1.5
4. Village Housing Projects Scheme	42.2
5. Slum Clearance	269.0
6. Land Acquisition and Development	91.2
7. Middle Income Group Housing	25.6
8. Rental Scheme for State Government Employees	102.4
9. Dock Labour Housing	1.4
	976.9
TOTAL	976.9

Financed by Semi Public Institutions

The Life Insurance Corporation of India is providing housing finance through government schemes or through State level apex housing financing institutions or through its own housing schemes.

Total finance provided by the Life Insurance Corporation of India for housing schemes upto 31.3.1970 was as under:

	(Rs. million)
1. To Apex Housing Finance Societies	706.5
2. Housing Schemes of the various State Governments	1292.4
3. Own Your House Scheme	143.1
4. Property Mortgage Scheme	173.1
5. Individual L.I.C. Employees Scheme	7.1
6. Co-operative Housing Societies formed by the employees of the Corporation	40.1
7. Schemes for public limited companies for construction of houses for their employees.	5.2
8. Co-operative Housing Societies formed by the employees of public limited Companies.	2.8
	2,370.3
TOTAL	2,370.3

Housing Co-operatives and Private Sector Investment

The co-operative housing societies play a significant role in financing house construction. They mobilise the resources of

their members to the extent of 25 to 30 per cent. The collective security of the society enables it to raise loans on a long-term basis and at a reasonable rate of interest. Eight States have already set up State level apex institutions which raise their resources by borrowings from the Life Insurance Corporation on government guarantee.

The subjoined statement will indicate the extent of finance provided by the primary housing co-operatives and State level societies for house construction during years 1957-58 to 1967-68:

TABLE II

<i>Year</i>	<i>Total outstandings of the loans advanced by State level societies at the close of the year</i>	<i>Total borrowings of the primaries outstanding at the close of the year</i>
	(Rs. in thousand)	(Rs. in thousand)
1957-58	2,43,65	24,00,49
1958-59	3,50,61	32,24,33
1959-60	5,42,72	38,08,32
1960-61	3,47,26	41,31,95
1961-62	6,98,68	50,19,14
1962-63	13,88,05	60,34,21
1963-64	18,28,96	73,75,13
1964-65	23,12,08	83,55,92
1965-66	27,00,70	87,12,69
1966-67	36,87,80	1,23,96,29
1967-68	47,67,70	1,24,27,20

SOURCE : Statistical statements relating to the Co-operative Movement in India published by the Reserve Bank of India for different years

In the absence of any statistical information, it is difficult to evaluate the efforts made overall in the private sector on residential construction. However, available statistics relating to the number of houses sanctioned for and completed by the co-operatives of industrial workers and by the employers will indicate the performance of the private sector. The overall investment in the private sector during the first three plans was as under:

	(Rs. in million)
I Plan 1951-56	9,000
II Plan 1956-61	10,000
III Plan 1961-66	11,250

It may be observed that the total investment from both private and public funds is small compared to the magnitude of the housing problem. This has created a wide gap between needs and achievements in as much as the total estimated requirements of housing finance are of the order of Rs. 300,000 million (or approximately 40 billion U.S. Dollar). These estimates are based on the assumption of 74.1 million representing the shortage, and Rs. 4,000 as the average cost per house.

*Government Policy and Programme
for Housing Finance*

The Fourth Five Year Plan lays emphasis on self-financing schemes, the mobilisation of private resources through Co-operatives and Housing Boards and the promotion of private efforts in the field of housing. Government will continue to finance as before, all the Central Sector Schemes and for this a provision of Rs. 531 million has been made in the Fourth Five Year Plan.

The following steps are also being taken at government level to devise a desirable institutional mechanism for providing an integrated system of housing finance in the country:

1. Constitution of a Revolving Fund for financing economically viable projects having regenerative features.
2. Setting up of a Housing and Urban Development Corporation for operating the Revolving Fund. This Corporation besides financing the projects, if necessary, will undertake the execution of selected projects.
3. Setting up apex institutions at State level which will provide necessary finance to the primary housing co-operatives.

The following measures are also under consideration of Government, as may be seen from the recommendations of the Ministers of Housing and Urban Development:

1. to introduce a system of mortgage insurance on the lines adopted by the U.S.A. and Canada;
2. to formulate and implement self-financing schemes for land acquisition and development in urban areas by accepting advance deposits in instalments towards the cost of land and its development from prospective buyers;
3. to utilise the funds of the Employees Provident Fund for investment in social housing schemes.

Legal Framework

There is no legislative Act in India which enunciates the aims of Government housing policy. The development of housing forms a part of the national Plan programmes, which aim at promoting construction of housing and relative community facilities with a view to ensuring adequate and decent housing accommodation and suitable living environments for all workers and their families. Fortunately housing has secured a place in the national Plans, but it has failed to get a priority with the result that inadequate resources have been allotted for it in the Plan programmes.

Due to lack of legislation and planning, difficulties are multiplying. However, mention may be made of existing state legislation and machinery which regulates urban housing in the country.

1. The Bombay Town Planning Act gives legislative sanction and direction for preparing master plans or development plans for all urban centres which are in the jurisdiction of a local authority. Similarly other States have also introduced town planning legislation with varying scope.

2. Regional studies in respect of metropolitan regions around Delhi, Greater Bombay and Calcutta are initiated. These studies are aimed at tackling the problem of these cities where the growth of population has almost led to a law and order problem.

3. Some of the State Governments have taken steps to establish Metropolitan Regional Planning Boards in the important cities, defining their areas and jurisdiction.

4. Under the Bombay Building (Control & Erection Act) 1948 permission for extension of industrial premises is granted only on the condition that employees will provide housing for 60 per cent of the labourers to be employed on account of the expansion of the industry.

5. Town and City Improvement Trusts established for the purpose of improvement of the city are engaged in planning their towns and cities, drainage and water supply.

6. State Housing Boards have been constituted under Acts of State legislatures and carry out functions including executing the construction programme, letting accommodation and collecting rent.

7. Rent Control Acts in various States aim at keeping the rents as low as possible and protect the tenants from exploitation.

8. The Ownership Flats Act passed by the Government of Maharashtra aims to control and regulate sale of flats. According to its provisions, flats can be sold only to co-operative societies and joint stock companies.

Legal Framework for the Operation of Housing Co-operative

The housing co-operatives in India are registered under the general Co-operative Societies Act. They are defined and classified under the provisions of the Co-operative Societies Act of each State. In States like Maharashtra and Gujarat, housing co-operatives have made significant progress and there is a demand for a special Act of Legislature which could recognise the distinctive characteristics of housing societies and provide the necessary legal framework for their orderly growth. The State of Maharashtra is contemplating a special act for the promotion and regulation of housing co-operatives.

Services of Government Personnel

Since development of housing has been accepted as the responsibility of government and many schemes relating to promotion of social housing are included in the national Plan programme, it has become incumbent upon government to set up a proper administrative structure and to make available the services of government personnel for formulating realistic programmes for public, co-operative and private housing and recommending action for their implementation in co-operation with various agencies concerned.

A comprehensive housing policy and programme usually involves different government departments such as Public Works, Urban development, Water Supply etc., municipal corporations and local authorities. Those concerned with Town Planning and enforcement of building regulations are also associated with the implementation of building programmes.

Services of Government Personnel Available through the Departments of Central Government

The Department of the Central Government responsible for all aspects of the housing programme is the Department of Works, Housing and Urban Development under the Ministry of Health and Family Planning and Works, Housing Urban Development. This Department implements various social housing schemes. It also promotes research in building materials and techniques. The Government of India established in 1954 the National Buildings Organisation. It aims at achieving reduction in building costs through the promotion and co-ordination of research in building materials, techniques and designs. It disseminates useful information on the application of building knowledge and practical results of research.

At the State level, there is an urban development and housing department. This department is responsible for the implementation of various schemes, relating to urban housing, slum clearance, town planning etc. In this department under the Ministry of Housing, there are Housing Boards which have the services of technical persons for carrying out the government programme of construction of houses and which also acquire land required for housing schemes. Each State Government has its Public Works Department which is equipped with technical personnel. It undertakes the construction of houses for government servants.

There are Town Planning and Building Departments of local municipal authorities. The services of the technical personnel of this department are available for preparing plans and layouts in accordance with the Municipal Development Plan and also in the matter of implementation of Building Rules.

Services of Government Technical Personnel for Co-operative Housing Societies

The personnel of different governments assist the co-operative housing sector in a number of ways. These are broadly as under :

- (i) The officers of the Co-operative Department assist in the organisation of housing societies

- (ii) The services of the personnel from the government department are made available to the housing co-operative to work as Managers, Accountants, etc.
- (iii) The Heads of Technical Departments are nominated as ex-officio directors on the apex housing finance societies, and finally,
- (iv) The services of the technical personnel are also made available to primary co-operatives under special schemes, in the preparation of plans, designs and layouts, etc.

II

SUGGESTIONS FOR FORMULATION OF NATIONAL HOUSING POLICY AND PROGRAMMES

Need for the Formulation of National Policy

The significance of housing as a national problem needs no special reiteration. The time has come when the very survival of the individual is co-related to and decided by certain types of social action or national policies. The norms and standards to be followed in the matter of house construction for one's own residential purposes are laid down by the municipalities or State Governments. This is because the multitude of items which go into the making of a house are vitally related to the overall economy. In short the individual's choice of standards in house construction has to be controlled with respect to the national needs and aspirations: and this role of control can be performed best only as an administrative function. In ordaining policies and standards in housing for adoption by individuals the governing agency would do well to aim for certain social targets and objectives which automatically lead people to a co-operative community life.

Place of Housing in the National Plan

Housing being the most important of the public utilities and social services and an indispensable necessity for life, it has to be attended to as an integrated part of the national Plan. It also includes a group of industries producing building materials and therefore having an important place in the National Plan.

General Aspects of a Comprehensive National Housing Programme

The important aspects which need consideration while formulating a National Housing programme are as under :

1. The total housing need in a country at a given point of time should be estimated so as to provide a bench mark for the future.

2. To formulate a long-term housing programme, it may be desirable to estimate the need over a period of time, say 10 years.

3. In mixed economies the role of various agencies such as public, co-operative and private should be defined and clearly determined.

4. The housing programmes should not be judged as an economic plan only, but due consideration should be given to its importance as an item of social welfare.

5. Direct government action in meeting the urgent problems of housing should consist of (a) construction of public housing and development by public agencies of residential communities or towns, (b) extending financial assistance to prospective builders and investors in the form of loans and/or subsidies, (c) training personnel at all levels to deal with all aspects of housing (d) promoting building materials research and experimentation, (e) expansion of the capacity of the building and building materials industries, (f) reduction of the cost of the building.

6. The programme should fix the physical targets to be achieved by each agency selected for the implementation of the programme e.g. Central Government, State Government, Local authorities, co-operative sector, private sector etc.

7. The programme should indicate the steps to be taken for mobilising financial resources for the purpose and an action programme should be drawn up for raising the necessary finance for achieving the physical targets.

8. The programme should prescribe the standards to be adopted by government or private agencies to meet the requirements.

9. The necessary administrative set-up should be created

to co-ordinate the activities of the various sectors so as to achieve the common national aim.

10. The plan should also include a programme for the development of the building industry and research etc.

The Role of Housing Co-operatives in a National Housing Programme

Government efforts alone are not sufficient to solve the housing problems of any country, Co-operative methods have real advantages in helping to solve housing problems. They are the only agencies which will be in a position to provide houses to all. Among the advantages offered by the co-operatives are: (1) they encourage the people to save and channel such money into the financing of house-building, (2) They organise their own technical services, (3) They offer the means to low income families of acquiring a decent house.

If housing co-operatives are to play an important role in solving a country's housing problem, it is necessary to create a favourable climate in which housing co-operatives can flourish. For this purpose a well thought out national housing policy is needed which will create favourable conditions for housing co-operatives to operate and provide necessary financing institutions to extend credit to them. The following measures are necessary to create a favourable climate for housing co-operative if they are to play the expected role.

1. *Organisational Factor:* Well-organised co-operatives should be set up. They should be provided with experienced personnel to run the organisation.

2. *Training:* The staff members of the housing co-operatives should be properly trained. The training to be given should be on the basic principles of housing co-operatives, management methods and working procedures.

3. *Financing of Housing Co-operatives:* Apex co-operative housing societies should be set up which would ultimately lead to a national society. Loans for house construction to primary co-operatives should also be routed through the apex society. The resources of the apex society should be strengthened by the state participation in their share capital. Their loans and debentures should be guaranteed by government to enable them to

borrow adequately to meet the demand for finance from the primaries.

4. *Technical Aid and Services:* Technical assistance should be made available to the primary co-operatives through the apex societies. The apex societies should develop project technical services with government assistance.

5. *Indirect Measures to Support the Growth of the Movement:* Special quotas of essential building materials should be reserved for the housing co-operatives and they should be allowed to lift such quotas directly from the source of production. Research results in the house building industry should be brought to the notice of the co-operatives and cheap building materials should also be made available to them.

6. *Land:* A rational land policy should be evolved at the national level. Preferential treatment should be given to the housing co-operatives in the allotment and distribution of developed land. Local authorities should take suitable measures to eliminate or curtail speculation in land suitable for building schemes, especially on the outskirts of major industrial towns.

7. *Tax Reduction and Exemption:* In order to encourage housing co-operatives, tax reductions or exemptions should be granted. They should be exempted from Income-tax, registration fees, and stamp duty. Tax reduction should also be granted in municipal or corporation taxes.

8. *Special Legislation:* A country wishing to encourage housing co-operatives should have special legislation which recognises the distinctive characteristics of these types of societies. The legislation should give sufficient protection to the organisations in their operation and also provide for technical and financial aid from the State.

Conclusion

In conclusion, it can be stated that the measures suggested above will help to create favourable conditions for the proper growth of housing co-operatives, which will function effectively and play a crucial role in the new climate created.

8. COST SAVING FACTORS IN HOUSING CONSTRUCTION

G. C. MATHUR

I. GENERAL HOUSING SITUATION IN SOUTH-EAST ASIA

Backlog of Housing

The backlog of housing in Asia in 1960 according to the U.N. Report,¹ was 22 million houses in the urban areas and 125 million units in the rural areas. It was estimated that 19 million houses should be built annually during the next 30 years to overcome the present shortage of accommodation and to meet the future demand of approximately 10 houses per 1,000 persons. As against this requirement the volume of construction in the ECAFE Region, excepting Australia, Japan, Hong Kong, New Zealand and Singapore, was about two units per 1,000 persons.

Investment in Housing

Investment in housing in most of the developing countries was currently around 1.5 to 2 per cent of the national income as against 4 to 6 per cent required to cope with the heavy backlog of housing and to improve the intolerable housing conditions in most of the metropolitan areas in the Region.

Limiting Factors

A study of Building Costs in Asia and the Far East was undertaken by ECAFE². It mentions that there are several limiting factors which affect the capacity to provide houses over

¹U.N.: Report of the Seminar on the Industrialisation of Housing for Asia and the Far East, April, 1969.

²U.N.: Economic Commission for Asia and the Far East : Study on Building Costs in Asia and the Far East, 1961.

a period of time. These include building materials, effective organisation at various-levels, technical personnel, skilled labour and long-term finance for construction. Of these, long-term finance appears to be the most important limiting factor even though other items require continuous attention in connection with the establishment and maintenance of housing programmes at the required level. Various factors which effect building costs in the countries of this region, however, are different and a study of these would help in judging the efficiency of the building industry in the respective countries.

Importance of Housing

Today, for most people, especially in the low income group building a house of their own has gone much beyond their means. The common man has to spend many times more than his meagre life-savings for building his house. Still however, the desire to build a house of one's own is cherished by most of us.

A good house is among our basic requirements and its importance is next only to food and clothing. A house is of importance for the health of individuals and for the growth of proper family relationships. A good house is essential for decent living. It plays a great part in providing convenience in the performance of the daily chores of life. It has great significance for promoting social well-being and good neighbourliness. The well-being of a nation is reflected in the standard of living and housing achieved by it. The problem of satisfactory housing for the economically weaker class of people therefore needs to be given the greatest attention as their living standards should be raised progressively.

Cost Reduction

A great hindrance in this task is the high cost of construction. If the building costs could be reduced substantially it would provide positive encouragement to the common-man to build a house of his own. It is in this context that the factors which contribute to the cost of construction, the method of controlling costs and the ways and means to reduce house building costs have been discussed here. Organised agencies like the housing co-operatives are in a better position, as compared to

the individual house-builder, to take concerted action to achieve reduction in building costs.

Modern Housing Requirements

To begin with, it would be interesting to study the modern concepts and trends in housing which have been responsible for contributing substantially towards the increase in the total cost of construction. Consequent on the process of urbanisation and rapid development in science and technology, new and additional demands on housing are being placed as regards the following³ :

- (a) Adequate space and built-up accommodation for healthy housing conditions.
- (b) Economical lay-out of housing colonies and efficient design of dwellings for better housing.
- (c) Good architecture and better quality construction to improve the aesthetics, performance and durability of house structures.
- (d) Essential housing services to ensure proper sanitation and hygienic living.
- (e) Required domestic fittings, equipment and built-in furniture for everyday use and convenience.
- (f) Community facilities and other amenities for fostering social life.
- (g) Town planning aspects conducive to orderly urban growth.

To fulfil these requirements adequately and satisfactorily, consistent with the rapidly changing social order, economic levels and rising living standards, the evolving of sound principles for controlling and regulating orderly development of urban centres and for undertaking mass housing programmes, has

³Technological Innovations for Production of House at Low Cost. Paper presented by Mr. G.C. Mathur, Joint Director, National Buildings Organisation, New Delhi at the 3rd Afro-Asian Housing Congress, Dar-es-Salam, April, 1970.

come to assume great importance for the health and well-being of our teeming millions.

Urban as well as rural people are becoming increasingly aware of the need and importance of housing. The provision of satisfactory housing, not only from the point of view of shelter for the families but from considerations of economic and social benefits which it brings in its wake is also being appreciated to a greater extent. However, in the face of competing demands and more urgent problems such as, agricultural development, industrialisation, defence, etc., it has not been possible for many of the developing countries to give higher priority and allocate adequate resources for housing.

Complicated Problem

On account of financial stringency and paucity of other resources, housing, specially in urban areas, has become one of the most complicated problems of the day. But in view of the appalling and deteriorating housing situation in many countries of Asia, Africa and Latin America, it has become an urgent matter to find satisfactory solutions to the problem of housing. Co-operative efforts in house building provide a means of great potential for ameliorating the present day housing conditions, through promotion of self-help and mutual aid programmes, if the housing co-operatives give due attention to factors which contribute to the cost of construction and collectively take appropriate measures as discussed in the following pages, they can successfully achieve significant reduction in house building costs.

II. GENERAL FACTORS GOVERNING THE COST STRUCTURE

Cost of Living

In most of the developing countries, it is said that increase in the cost of housing construction is directly proportional to the increase in cost of living. It is common knowledge that in almost all the developing countries, there is a successive rise in the cost of living which has been responsible for corres-

ponding increases in the cost of building materials, and labour wages and consequently the cost of housing construction.

Building Cost

As regards the cost of building, it may be noted that the cost of maintenance over a life time of a modern building may be of the same magnitude as the original construction cost. This may not significantly influence building costs in early development but this has to be considered when development advances. Half of the investment which is needed to produce the building, may be very roughly estimated to include in early development :

20% for planning, administration and management in all sectors.

20% for land and land development.

40% for the manufacture and distribution of building products, tools and machines.

20% for building construction works (net cost of labour).

100%

The cost which may be influenced by rationalisation on site in construction is only some 20 per cent of half the total building costs. The main cost factors have to be looked for elsewhere.

Cost Factors

As related to housing construction, the cost structure is generally influenced by a multitude of factors amongst which the following are important :

- (i) The magnitude and programme of construction and long range prospects of future development, depending on government policies and Plan programmes.
- (ii) Fluctuations in the prices of building materials due to

⁴Economic Commission for Africa : Working Paper by the Secretariat for Meeting of Experts on House-Building Costs, Addis-Ababa, April, 1968.

shortages, taxation policy and control measures of the government as also the costs involved in transportation.

- (iii) Effect of labour movement, wage increases, political changes and the impact of international events such as, wars, devaluation etc.
- (iv) Condition of the money market, general economic considerations, such as, financial inflation priorities for development and paying capacity of house builders.
- (v) Land shortage emanating out of a large scale and rapid programme of housing construction, and steep growth in population, rapid industrialisation and urbanisation.
- (vi) Changes in the living habits of the house builders and in the standards of living.
- (vii) Changes and procrastination in execution of works.
- (viii) Advances in building technology thereby modernising the resources and methods of building and resulting in higher productivity.

The housing co-operatives in most of the situation cited above, have perhaps to be content with the prevailing state of affairs and are not in a position to take any action to remedy the situation because these are matters largely concerning government policies, and programmes and the present day social situation as a result of a wide variety of factors which are ingrained in the economic and political set-up of the countries concerned. This, therefore, emphasises the need for housing co-operatives to adopt such designs, building materials, construction techniques and methods of execution of housing construction projects as would enable a substantial reduction in the cost of housing construction.

Optimum Cost

It is no doubt true that there is a limit to which efforts in this direction could be made so that housing construction at optimum cost could be achieved. But with the successive demands on housing construction, as regards quality of dwellings accommodation required for living, essential housing services and amenities required as also community facilities that are necessary, additional cost in housing construction would have to be

incurred to provide for these. With the pace of development growth of economy and technological advancement housing standards would continue to improve and the question of achieving the desired results at optimum cost is therefore, a continuing problem.

Avenue for Economy in Building Cost

Notwithstanding these factors, which are largely of technological concern, in several other ways, the housing co-operatives can adopt administrative and organisational measures which bring about appreciable reduction in housing construction costs. The avenues for achieving economy in building costs are enumerated below :

- (i) Area acquisition of land and its rational utilisation.
- (ii) Economical utilization of land by achieving rational residential densities and construction of more than single-storeyed houses and multi-storeyed buildings.
- (iii) Area development of land at economical cost to provide for essential housing services, such as, water supply, sewerage system, electric supply, roads, open spaces, etc.
- (iv) Efficient architectural planning to achieve economical space utilisation in designing dwellings and housing projects by arranging for the services of competent architects, engineers, specialists and builders.
- (v) Rational designs of structures to ensure more durable and safer house structures.
- (vi) Selection of proper types of materials and use of improved and cheaper building materials which enhance the durability and performance of houses and procurement of standard quality materials at reasonable prices.
- (vii) Adoption of new building techniques to quicken to speed of building operation and to ensure desired quality of construction at optimum cost.
- (viii) Adoption of better methods of execution of works to avoid wastage of materials, labour and time in housing construction.
- (ix) Installation of essential services in the houses, such as,

water supply plumbing etc. at economical cost ensuring trouble-free services and reliable performance.

- (x) Construction of such type of houses as require very little or no recurring maintenance cost.
- (xi) Provision of such housing amenities and community facilities in housing colonies at economical cost which enable the fulfilment of the requirements of modern and better housing standards.
- (xii) Housing management to ensure proper use and economical maintenance of housing services and community facilities.

III. FACTORS AFFECTING COST OF HOUSING BUILDING

The cost of a house could be divided into the following elements :

- (1) Cost of land and development charges for the provision of municipal services such as, roads and streets, sewerage lines, electric and water supply distribution system etc.
- (2) Cost of preparation of house design including the house-plan, structural design, estimate of quantities of materials required and specifications for construction work and approval of the house design by municipal authorities.
- (3) Cost of materials used for building the house.
- (4) Cost of labour charges required for the execution of construction works.
- (5) Cost of technical supervision, management and execution of work.
- (6) Cost of provision of domestic housing services such as, water supply, sewerage system and electrical installations which includes the cost of service lines, equipment, fittings and fixtures required and their installation charges.

Economical Utilization of Land and its Development at Reasonable Cost

Due to the influx of population into the urban areas and growth of cities and towns in the wake of industrialisation, the demand for land has increased considerably and its prices have risen steeply. In areas of concentrated business and commercial

activities the price of land in some metropolitan towns can be said to be exorbitant and there is acute scarcity of land. There is a great need to evolve a sound land policy in developing countries and to devise measures which enable economical utilisation of land.

Rational Plot Sizes

Maximum utilisation of land for the purpose of building in low-rise housing developments is a subject which should receive due attention. Economical plot sizes and lay-out schemes for housing should be evolved in conformity with the climatic conditions, health requirements, social needs and town planning considerations. The provision in the building by-laws as regards ratio of built-up area and size of the plot etc. for the purpose of building should also be reviewed with a view to rationalizing these and promoting greater use of available land keeping in view its scarcity and high cost.

Multi-storeyed Buildings

In most urban centres, it has become necessary to construct two and more storeyed buildings, in order to utilize the available land economically. For low income group housing in metropolitan cities, where land values are high, four-storeyed residential buildings are increasingly being adopted. Where ceiling heights could be reduced upto 2.7 metres, construction of five-storeyed walk-up flats should be examined. Multi-storeyed residential buildings are also being built in many places.

Land Development

For the purpose of building, land is required to be developed. This includes clearing of the site of unwanted trees and vegetation, levelling of the ground and its grading to facilitate surface drainage. This may require cutting and filling work of considerable magnitude if the site is large and undulating. Where natural drainage is encountered or a historical monument is to be preserved, it is necessary to develop proper landscaping treatment to take advantage of these features to improve the surroundings.

The development of land for the purpose of habitation

requires laying of Municipal Services which may include the scheme of water supply network, underground sewerage system, lay-out of roads and streets, playgrounds, parks, street lighting, surface drainage for rain water, electrical supply lines and telephone connections etc.

Development Cost

If 'area' development of land is undertaken and provision of various municipal services is skilfully planned and properly executed, considerable economy could be effected in the cost of land development and the housing sites could be made ready in a shorter time. Area acquisition and development of land should be undertaken by house building co-operatives. As provision of a number of services is called for, advance planning should be adopted for programming the completion of different operations in time and at economical cost. The cost of development should normally not exceed 20% of the cost of the building project.

Efficient and Economical House Designs

A house is required to fulfil the functions for which it is built. Therefore, greater stress has been laid on functionalism in architecture and, as a result of this there is an increasing tendency to do away with unnecessary architectural and ornamental features which add to the cost. Expensive architectural features are being avoided by adopting simple geometrical forms made possible by the use of modern materials and construction techniques. The industrialised form of architecture is gaining prominence due to standardisation and mass production of building materials.

Building Code

The architectural planning and structural designing is regulated through building by-laws and town planning regulations. The outmoded building by-laws do not permit the adoption of new materials, construction techniques and planning ideas. It is necessary to revise the building by-laws and other regulations in the light of modern scientific and technological developments. In India, a National Building Code has recently been compiled by the Indian Standards Institution to serve as a model.

Type Designs

House builders of low and middle income groups cannot afford to spend time and money in the preparation of house designs and in seeking their approval. A number of ready made house designs, offering ample choice and variety complete with specifications regarding materials and construction techniques which can be directly adopted should be made available. These should conform to local conditions and building by-laws and in their design full consideration should be given to economy in construction. To facilitate the adoption of type-designs technical guidance and supervision of construction should be provided. The housing co-operatives should consider providing such services free or at nominal cost.

Group Housing

Group housing is being advocated and offers better avenues for housing building activity on a co-operative basis. For group housing, area acquisition and development of land is undertaken and by organising works properly considerable economy in development of land can be achieved. In the case of construction of multi-storeyed building, for providing apartments on ownership basis a considerable amount of money for the project is required, which housing co-operatives can muster. Housing co-operatives can also employ expert architects, structural designers and builders who can design and put up multi-storeyed apartment buildings/group housing colonies, at an economical cost.

Group housing schemes and multi-storeyed buildings provide greater opportunity for introducing standardisation on a scientific basis as well as greater scope for the adoption of new and improved building materials and techniques for reducing the cost of construction. The execution of group housing and multi-storeyed building projects can be better organised and supervised to ensure improved construction. Such co-operative housing projects can not only result in substantial economy in building costs but can also help in reducing much of the botheration which the common man has to undergo while building his house on an individual basis.

Use of Improved & Cheaper Building Materials

In most of the countries in Asia, building materials

account for upto 65 to 75 per cent of the cost of construction. The general break-up of the cost of materials commonly used in house construction is as follows :

(a) Cement	18%
(b) Iron and steel	10%
(c) Bricks	17%
(d) Timber	13%
(e) Sand	7%
(f) Aggregates, etc.	8%
	<hr/>
TOTAL	73%
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Proper Use of Materials

The right selection and use of materials of standard quality are important not only for effecting economy in the cost but also for ensuring good quality construction. The housing co-operatives should provide required guidance to the house-builders in the matter of the selection of the right type of materials, their procurement at reasonable prices and proper use in construction. The use of locally available materials such as bricks, lime and timber should be encouraged and consumption of expensive and scarce materials like cement and steel should be reduced to the minimum. Advice in this respect should be sought from the national research and development organisations and Building-Centres which provide a permanent exhibition of building materials, products, designs, etc. and make available technical as well as trade information pertaining to the building industry.

Bulk Procurement of Materials

House builders often find it difficult to obtain the proper quality of materials at reasonable prices. A regular supply of materials as per the requirement of the construction schedule is also a common worry specially when a scarcity of materials exists in the market. Due to the non-availability of important building materials such as steel, cement, timber and bricks, the progress of construction works is hampered. A temporary hold-up of work results in idle labour and an extension of building

time. Housing co-operatives should consider making arrangements for the bulk procurement and organised marketing of building materials. This will not only facilitate the task of the housebuilder but also enable him to obtain standard quality materials at reasonable/cheaper prices.

Better Management, Supervision and Execution of Construction

The execution of construction work to build a house of good quality at an economical cost and in a reasonable period of time calls for the proper management of work and technical supervision by the agency employed to execute the building operation. Generally, house-builders themselves undertake the work of management with the help of technical supervisors whose services they pay for. To organise the work properly the house-builders need to have general technical guidance, which should be provided by the housing co-operatives. Employment of architects, engineers and technicians recommended by the co-operatives for the supervision of construction works would instil greater confidence in the house-builders. In the interest of the quality of construction, it is always wise to avail one-self of the services of experienced technical supervisors.

Labour Cost

The work of construction is done by skilled masons, carpenters and unskilled labour. Labour charges amount to as much as 27 per cent of the cost of construction. The general break-up of labour-costs in house construction is as follows :

(a) Masons wages	10%
(b) Carpenters wages	5%
(c) Unskilled labour	12%
	<hr/>
TOTAL	27%
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Contractors' Profit

The building operations are generally entrusted to a contractor who charges for his services, normally at 10 per cent profit. If the housing co-operatives are able to organise the

execution of work by their own agency on a "no-profit-no-loss" basis, it would result in a saving in building costs, continuity of work and employment, better appreciation of site conditions and the backing of the resources of housing co-operatives will provide added advantages.

Installation of Services at Economical Cost

A modern house is not merely a house structure but in it are to be installed essential services such as electrical wiring and fixtures, water supply and fittings, pipes and a drainage system for the disposal of sewage and waste water from the bathroom and kitchen. Normal installation of domestic services may cost about 30 per cent over and above the cost of construction.

Cost of Services

The likely break-up is as follows :

(a) Water supply and sanitary installations	12.5%
(b) Electrical connections	12.5%
(c) External services	5.0%
TOTAL	30.0%

Planning for Services

In the matter of provision of services at economical cost, housing co-operatives can play an effective role by providing the required facilities at a point where the cost incurred is the minimum. This should be kept in view while planning the lay-out of supply lines, sewers, roads etc. for developing the land. Also as the work of installation of services calls for specialist trades the housing co-operatives should consider providing facilities for engaging the right type of skills and the procurement of the required type of materials, fittings and fixtures etc. on bulk purchase basis.

IV. IMPROVED BUILDING TECHNIQUES

In a broad sense, based on some studies of various housing projects, both single and double storey type-and traditional

constructions, the break-up of construction cost can be expressed in the following manner to highlight the importance of different items of building work :

(a) Foundation	10%
(b) Walls, etc.	30%
(c) Roofs	25%
(d) Doors & Windows	15%
(e) Flooring	10%
(f) Finishes	10%
	<hr/>
TOTAL	100%
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Reduction in the cost of construction can be achieved by :

- (i) Rationalisation of Building Specifications and Techniques.
- (ii) Adoption of new and economical Building Techniques.

Rationalisation of Building Specifications and Techniques

Research and feed-back experience from actual constructions have provided more exact data and knowledge regarding the performance and behaviour of conventional building materials and techniques. On the basis of this the following measures could be considered for rationalisation of conventional building specifications and techniques :

(a) Design of Foundation

(i) *Investigations of Load-Bearing Capacity* : It is necessary to undertake soil investigations to determine the bearing capacity of soil and other site conditions which influence the design of foundations. By the application of modern knowledge of soil mechanics and foundation engineering, it is possible to determine the load bearing capacity of soil more accurately. For this, site investigations should be made. The data provided by these would enable the designing of economical foundations.

(ii) *Foundation Masonry*: The designs of foundations should be undertaken in conformity with the standard code of practice

and alternative methods of foundation should be considered and economical solutions selected for adoption. By ensuring proper drainage of the site the plinth height could be kept to the minimum.

(b) Load Bearing Masonry Walls

(i) Single Thickness Brick Walls : It is possible to adopt thinner load bearing brick walls. For this, it is necessary to design such walls on the basis of a standard code of practice. By matching the strength of the brick work with that of the mortar used the strength of brick work could be increased and thinner walls adopted. With the advancement of structural designs of masonry walls and production of high strength bricks from mechanised brick plants, it is possible to build four and more storeyed structures with single-brick thick load-bearing walls on all the floors. Only for the ground floor, high strength mechanised bricks having a crushing strength of not less than 105 kg/cm^2 in cement mortar 1 : 6 or cement, lime mortar 1 : 2 : 9 are required to be used whereas ordinary hand-moulded bricks of crushing strength of 70 kg/cm^2 are to be used in the upper floors in cement mortar 1 : 3 or cement lime mortar 1 : 1 : 6.

(ii) Mortar : Suitable mortar specifications should be adopted consistent with the requirements and economy. Use of lime mortar may result in saving whereas use of lime cement composite mortar not only results in saving but also improves the quality of construction. It has been found that mortars such as 1 cement : 1 lime : 6 sand and 1 cement : 2 lime and 9 sand are satisfactory for general purpose mortar. It is possible to effect economy in the consumption of cement by replacing it by fly ash upto 20 per cent in mortar without affecting the strength (fly ash is a waste product from thermal power stations).

(iii) Ceiling Height : From scientific investigations and experimental constructions, it has been established that for hot and arid climates, ceiling height for residential buildings could be reduced to 2.7 metres. The fan hook can be provided within the ceiling by embedding a cast-iron box with hook arrangement. The reduction in ceiling height would not only enable saving in the volume of construction undertaken but would also result in substantial reduction in the dead load of the structure which is

of importance particularly in the case of multi-storeyed buildings.

(iv) *Reinforced Concrete Construction* : (a) Generally the roof accounts for 25 to 30 per cent of the construction and solid R.C. slabs are used. The normal practice is to adopt 10 to 15 cm thick slabs. It has been established that thinner slabs of 8—10 cm thickness could be adopted through suitable designs. The adoption of Ultimate Strength Design and use of High Yield Strength Deformed reinforced steel, results in substantial savings.

(b) By exercising due control on factors which contribute to the quality of the concrete, an economical concrete mix can be adopted, which may allow for higher design stresses. Therefore, mixes for concrete should be designed as per requirements and due care should be taken in the production and laying of concrete.

(v) *Productive Building Methods* : Proper site organisation and handling of materials, use of the required type of machinery and equipment and adoption of proper methods of execution of works and management of projects, can result in considerable savings by way of minimising the wastage of building materials as well as labour. Employment of the right type of skilled labour with the requisite strength of unskilled workers, a regular supply of materials of the required quality, adequate supervision and management of works can ensure handing of labour and better quality construction.

Adoption of New and Economical Building Techniques

(a) *Economical Techniques for Foundation*

(i) *Under-Reamed Pile Foundation* : Expensive clay soils, filled up ground and other soils of low bearing capacity can have economical and improved foundations by adopting under-reamed pile foundations. These are cast-in-situ R.C. piles bored into soils to a depth of 3 to 4 meters and a bulb is formed enlarging the base of the above-hole by an under-reaming tool. This type of foundation evolved by the Central Building Research Institute, Roorkee (India) had been adopted for over 40,000 buildings and houses successfully, resulting in economy and making the building safe from cracking. In the adoption

of under-reamed piles it is found that economy of the order of 20 to 30 per cent can be effected in foundation costs.

(ii) *Shell Foundations* : In soils of low bearing capacity hyperbolic paraboloid shell foundations can be adopted for economy. The footing is formed by four rectangular hyperbolic paraboloids subjected to uniform load. In India, such footings have been constructed near Calcutta and also in a building project in Madras by the Central Public Works Department. These footings have been found to be about 10 per cent more economical than the conventional footings and have shown satisfactory results.

(b) *New Techniques for Building Masonry Walls*

(i) *Brick Cavity Walls* : Cavity walls, which are constructed with two leaves of brick on edge with an air space of 4 to 5 cm in between and joined together with ties at intervals, provide better thermal insulation and serve as a barrier for moisture penetration. When proper care is taken in design, detailing and construction, these can be adopted with advantage at places where thicker walls are necessary to guard against thermal conductivity and moisture penetration. In addition there is a saving in bricks and mortar.

(ii) *Cement Concrete Blocks* : Where bricks are expensive and are of poor quality, pre-cast concrete blocks can be adopted for load bearing walls. However, care is required in the manufacture of blocks and in building walls with these in order to make the masonry water-proof.

(c) *New Techniques for Roofing*

(i) *Pre-cast R.C. Cored Units* : Solid R. C. slabs of 10-15 cm thickness can be replaced by pre-cast R.C. cored units or slabs. The minimum thickness of concrete in the units is maintained as 25 mm and the concrete used is 1 : 2:4 mix with 10 mm and down gauge aggregate. The cored units can be conveniently cast either at site or in a factory. At the site the units can be cast in lengths sufficient to span the room and in widths of 30 cm or more. The units can have a single core or two or more cores according to the design. In factories the cored slabs can be mass produced ensuring better quality. These can also be manufactured by an extrusion process and

also such slabs can be pre-stressed. The use of cored slabs provides a saving in time of construction as well as in cost. When used for roofing it provides an added advantage of better insulation.

(ii) *Doubly Curved Tile Roofs* : Doubly curved tiles of 120 cm × 120 cm can be pre-cast at site with the help of a simple mould. The roofing system is based on the use of these units comprising 69 cm² doubly curved concrete tiles and partially pre-cast R. C. beams. Such a roofing system economises in the use of cement and steel.

(iii) *Precast Concrete Channel Units* : Like R.C. pre-cast channel units can also be used. These are of trough type, precast concrete reinforced units. The minimum thickness of concrete in the units is maintained at 25 mm. The units are manufactured with 1:2:4 mix concrete with 10 mm and down gauge aggregate. Channel units are cast conveniently at site or in factories. These can also be prepared with pre-stressed concrete. These are cheaper as compared to conventional R. C. slabs but their use does not provide a flush ceiling.

(iv) *Pre-cast Cellular Concrete Units* : Another method of providing precast roofing and flooring components is by the use of cellular units, which are placed fully or partly on precast beams. The supporting beams are designed according to the conventional design principle and partly precast. The recommended size for the cellular unit is 1 meter x 0.5 m x 100 mm which weighs approximately 55 kg and can be easily lifted and placed in position. These units are cast with the help of a simple rectangular framework of timber and hollow spaces are left by placing timber framework in position. This system of roofing produces substantial economy in cement and steel.

V. DEVELOPMENTS IN THE TECHNOLOGY OF HOUSING PRODUCTION

For tackling the colossal problem of housing in the developing countries, specially as well as economically, it is considered necessary that a break through should be achieved in the traditional craft of building which is practised in most of the

South East Asian countries. The industrially advanced countries have achieved spectacular speed and also economy in some cases in the matter of large scale housing construction programmes. Their success is attributed to the following developments in the technology of housing production:

- (i) Adoption of prefabricated building techniques.
- (ii) Standardisation in building.
- (iii) Modular Co-ordination.
- (iv) Better organisation of Building.

As an organised agency the housing co-operatives should consider these developments and come forward to support the application of these modern technological advances in house production. The impact of these advances in the South East Asian countries is briefly discussed below.

Prefabricated Building Techniques

Generally speaking, most of the ECAFE countries are faced with the problem of high building costs, non-availability of construction machinery and equipment and dearth of skilled labour. Under these circumstances the prospects of prefabricated building techniques may appear to be bleak. However, the huge and large programme of construction of a repetitive character, provides a singular opportunity for the introduction of prefabrication and mechanisation in construction and to take advantage from the application of standardisation and modular co-ordination to effect substantial economy.

By and large mostly traditional building materials methods are being employed in the developing countries for housing construction. These processes involve less investment in equipment in capital services and provide employment to a large number of people and are therefore, suited to the conditions prevailing in these countries. Therefore, traditional materials and building techniques would continue to be of advantage in low cost houses. However, in the urban centres, especially, in metropolitan cities, there is a huge backlog of housing specially for people of low and middle income groups and it has become a matter of urgency to build houses economically and at a fast rate. It is therefore, necessary to develop new building materials

and construction techniques and also to reduce the labour content in building operations by the use of machinery, job simplification, standardisation etc.

The adoption of non-traditional methods of construction like prefabrication, system building method and industrialised building processes needs to be considered, as by adoption of these methods spectacular advances have been achieved in the speed of construction in some industrially advanced countries. It is necessary to study these advances in the context of the existing conditions and prospects of progress in the developing countries. The building industry in South East Asia would have to prepare itself gradually for the acceptance of non-traditional methods of construction wherever economical and feasible to increase the speed of construction. In terms of speed in building indicative studies of some housing projects of four-storeyed constructions built by traditional methods have shown that completion time of such projects could be reduced by about 40 per cent by adoption of large panel prefabricated building methods; and by about 30 per cent by adoption of prefabricated building components, mainly for flooring and roofing.

Except in Japan, adequate training and research facilities for the introduction and development of industrialised methods of housing do not exist in the Region. Some prefabrication housing has been undertaken in Japan, Ceylon, Hong Kong and Singapore and case studies of these would provide useful information on the problems faced by these countries in their efforts to industrialise their building process.

Singapore achieved remarkable progress in house-building by traditional methods of construction. The cost of construction by the traditional methods was one of the lowest in the Region. It also had a long range programme ensuring scale and continuity of demand and the relatively high *per capita* income, was among the pre-requisites for industrial buildings. Yet Singapore was not as successful as Japan Ceylon in their attempts to use industrialised methods of house building. In 1963 a project⁵ consisting of ten blocks of ten-storeyed flats (1,000 units) using a

⁵ Report of the ECAFE Seminar on Industrialization of Housing for Asia and the Far East.

French patented system was undertaken by a local contractor for the Singapore Housing and Development Board. After more than 16 months with only the first two blocks more or less completed, it was decided to give up prefabrication as it was no longer economical to continue with that system of construction.

The Hong Kong Housing Authority⁶ has put up a seven-storey experimental building using an industrialised building system known as Taisei 'Tiltup', which was completed in February, 1967. One aspect of industrialised building that has to be carefully checked in Hong Kong is the effect of typhoon winds. Before this building was occupied, an extensive lateral loading test was successfully carried out; wind pressure was simulated by means of hydraulic jacks inserted at different floor levels. The scheme was built under a negotiated contract and its technical data and unusual contractual procedures have been recorded in detail for the information of other interested organisations.

Standardisation in Building

By and large the impact of standardisation in the construction industry is yet to be realised in many of the ECAFE countries. Standardisation can help achieve reduction in house-building costs by minimising wastage of labour, materials and construction time. It is an essential prerequisite for adoption of industrialised building methods.

In India, the Indian Standards Institution was established in 1946. It has issued some 600 standard specifications on building materials and production and codes of practice. It has also compiled model building by-laws and a National Building Code. The implementation of these standards and codes is promoted by the National Buildings Organisation, the Central Building Research Institute etc. in the field of building and housing.

The Department of Standards attached to the Union of Burma Applied Research Institute was started in 1966. The construction industry, however, has no specific national standard to go by. The British and Indian Standards are often used in

⁶Hong Kong Housing Authority: *Annual Report, 1966-67.*

practice. The Dewan Normalisasi Indonesia was established in 1954. It has evolved a code of practice for the construction industry which was published in 1956 and revised in 1963. The Pakistan Standard Institution was set up in 1961. In general the practice followed in the country is in line with the recommendations contained in the British, American and Indian codes of practice. In Ceylon, the Standard Advisory Council was established in 1955. The Council has so far published a few standards for building materials. Malaysia generally follows the British standards but in some cases the Australian standards and now and then the American standards are also adopted.

Modular Co-ordination

Modular co-ordination is a natural corollary to standardisation. Therefore, the advantages of modular co-ordination are exactly the same as those of standardisation namely, it reduces variety and promotes industrial mass production. Modular co-ordination achieves in the building industry the benefits of quality, quantity and economics derived from the industrial methods of mass production and prefabrication of building materials and components. It is a system of prefabrication and interchangeability of parts that minimises the amount of time, labour and money needed for assembly at the building site. Modular co-ordination benefits all those engaged in the building industry, the architect the manufacturer and the builder alike. It minimises wastage of materials, which amounts quite often to 10 to 15 per cent, preparation of plans and working drawing is simplified, quantity surveying becomes easier; quicker and more exact; materials and components can be obtained as and when required supervision becomes easier and costs go down.

Modular co-ordination with its many problems of theory and practice, has not made much progress in countries of the ECAFE Region, though it is clear that it can play a vital role in building productivity and a consequent reduction in building costs. The national standardisation organisations of various countries in the region can play a vital role. To promote modular co-ordination in the building industry a series of roving seminars were organised in 1969 in India, Ceylon, Burma, Taiwan and North Korea under the sponsorship of ECAFE and further follow up action is being taken.

Organisation of Building Industry

A construction programme requires heavy investment of capital. Absence of a long-range programme of construction makes the planning of continuous construction activity difficult and detracts from the investment of capital. Building is generally a localised activity. It is mostly carried out by several small firms which often lack necessary resources as regards skills, equipment, experience, etc. Ever changing work sites and scattered construction projects come in the way of continuity of employment and the maintenance of an experienced working team.

Most developing countries abound in manpower resources and the bulk of manual labour finds employment in the construction industry. The building operations are labour intensive and are primarily matters of efficient organisation of men and materials. The economics of the construction industry leans heavily on organisational and managerial aspects and on the proper utilisation of human resources. Labour being available in plenty at cheap rates the construction industry normally does not invest anything in machines. If machines are to be employed it would require substantial capital investment in purchase, operation and maintenance of machinery and plant and equipment, thus making the construction industry capital intensive. The extent of investment in machines deserve careful consideration. The use of construction machinery, therefore, has to be adopted judiciously.

Limited available resources for housing, the rising labour cost, the acute shortage of construction labour in most of the urban centres specially of skilled labour, all these emphasise the need for rationalising the traditional building methods and gearing it to mass production methods with an eye on productivity, economy, speed and quality.

Low productivity of construction labour was posing a serious problem in many of the developing countries of the Region. Factors such as unsatisfactory living and working conditions, the use of outmoded methods and techniques of construction, inadequate housing facilities and lack of construction equipment all contribute to low productivity. This has not only affected the quality and speed of construction but has also increased building costs.

VI. APPLICATION OF RESULTS OF RESEARCH AND DEVELOPMENT

Housing is one of the most complicated problems and is concerned with social, economic, financial and technological matters. Depending upon the local resources of the developing countries satisfactory economical and speedier solutions for building large scale housing at low cost have to be evolved. Research plays a very important role. The impact of building research carried out in these fields in some advanced countries is gradually being appreciated in the developing countries and in some of the countries national building research laboratories have been established or are being established. In India, the Central Building Research Institute is a national laboratory which has done very good work. In Pakistan also a national research laboratory has done very good work. In Ceylon the building research centre is being developed.

National Buildings Organisation

To co-ordinate the research and to promote the application of its results in India the National Buildings Organisation was set up in 1954, under the aegis of the Ministry of Works, Housing and Supply. The Organisation simultaneously devotes its attention to the problems of housing and building. Another United Nations Regional Housing Centre has been set up in Indonesia. The member countries of the ECAFE Region have appointed Liaison Officers to the Centre to take advantage of the work done by it.

The crux of the problem requiring research, however, is the substantial reduction in the cost of construction while building houses of a satisfactory quality at a fast rate. To achieve this a scheme called Development Cycle has been evolved by Bouwcentrum Rotterdam. It aims at providing a better working method for achieving the optimum quality of dwellings at a lower cost. The scheme envisages very careful preparation of large scale constructions for limited types of houses and an intensive programme of house building research and systematic application of knowledge in actual practice. The Development Cycle has been studied in all its aspects by the National Buildings

Organisation, which is promoting its application to housing projects.

Development Cycle Approach

The Development Cycle⁷ comprises the systematic development of 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 proto types, 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 use of dwellings is fed back to the programming stage where a new cycle may be started.

The fundamental laws of the scheme are:

(i) *Team Work*: This 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 has to be ensured. Advance planning and programming has to be achieved and co-ordinated 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 the 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.

Experimental Housing Construction

Effective measures are necessary to translate the results of research into practice with the minimum delay. Pilot projects

⁷ Based on the Study by Mr. G.C. Mathur, Joint Director, National Buildings Organisation, New Delhi, of "The Development Cycle Applied to Low Cost Housing" evolved by J. Van Ettinger, Executive President, Bouwcentrum.

of experimental housing based on the latest economical construction techniques and on the use of new materials, found by research laboratories, should be undertaken. One such scheme is being implemented by the National Buildings Organisation in India under which 16 experimental housing construction projects amounting to an expenditure of \$1½ million have been undertaken during the last couple of years. Some of the important new materials and techniques which have been incorporated in these projects have already been mentioned earlier under the subject heading "Adoption of new and economical building techniques".

VII. BUILDING CENTRES AND DOCUMENTATION FOR HOUSING

Establishment of building centres by the developing countries would significantly contribute to the promotion of house building and would rationalise the use of resources. The building centres⁸ provide a forum where architects, engineers and all those interested in building including the members of the general public could see in one place a representative and upto-date selection of materials, designs and techniques. The centre serves as a clearing house for information. The principal activities of such centres are to organise a permanent building exhibition and undertake effective work in the field of documentation, dissemination and application of building knowledge of practical value. The centres are essentially non-profit and impartial institutions and as far as possible self-supporting. Their main source of income would be through fees received from the exhibitors for displaying their products in the permanent exhibition.

Building Centres in ECAFE Region

A Building Centre in Japan is functioning very well and another such Centre in China (Taiwan) is doing useful work. The National Building Organisation has also established a Building

⁸ Role of Building Centres in the Development of Building Materials Industry and Popularising the Use of New Materials. Paper presented by Mr. G.C. Mathur, Joint Director, National Buildings Organisation, New Delhi, at ECAFE Seminar on Development of Building Materials, Bangkok, 1968.

Centre at New Delhi since 1966 and is promoting the setting up of a chain of building centres in principal cities in India and member countries of the ECAFE. In India, at Madras, Chandigarh and Ranchi such building centres have already been set up and are being developed at other places. It is understood that Ceylon, Indonesia and Thailand are actively considering the establishment of such centres.

The New Delhi Building Centre provides permanent building exhibition on a floor area of 1000 sq. met. In the commercial section of the exhibition over 101 leading manufacturers of building materials have put on display their products. In the research section, the activities of the Central Building Research Institute, the Structural Engineering Research Centre and the Indian Standards Institution have been displayed. In the new materials section, samples of new materials and products, which are being manufactured, have been displayed. In the house design section, efficient, economical designs of houses have been exhibited along with their models.

The Centre attends to trade inquiries regarding the products and building industry. Its inquiry counter makes available technical information and publications. A well documented library attached to the Centre is open for reference and provides documentation service. In the Assembly Hall of the Centre, temporary exhibitions, demonstrations, film shows, lectures etc., are organised from time to time. Consultative service is provided to prospective house builders free of any charge. This includes technical guidance and advice as regards planning and designing of houses, use of right type of materials, improved building techniques, etc.

The housing co-operatives can take advantage of the activities of the building centres in an organised manner for the benefit of a large number of their members.

VIII. CHECKLIST FOR HOUSING CO-OPERATIVES

At various places in this paper the measures which the housing co-operatives could adopt in bringing about a reduction in house building costs have been discussed. These are briefly summarised below:

1. The housing co-operatives should give due attention to measures for reducing house building costs.
2. Besides administrative and organisational measures the housing co-operatives should also concern themselves with technological measures for reducing house building costs.
3. Area acquisition of land and its rational utilisation is advocated.
4. Group Housing Schemes should be evolved to ensure an economical use of land.
5. Area development of land would enable the provision of essential housing services at an economical cost.
6. For evolving an efficient lay out of housing colonies and economical designs of dwellings, the services of competent architects, engineers, specialists and builders should be sought.
7. Guidance to house-builders should be provided to enable them to make the right selection, and the correct and most economical use of building materials.
8. Bulk procurement of building materials would help in obtained materials at reasonable prices and also ensure a regular supply.
9. Technical guidance in the adoption of rational building specifications and techniques should be provided and encouragement for the adoption of new building techniques should be given.
10. Provision of housing amenities and community facilities at economical cost, which enables the fulfilment of the requirements of modern living and better housing standards should be given due attention.
11. Housing management should be undertaken to ensure the proper use and economical maintenance of house, services and community facilities.
12. Housing co-operatives should provide a lead in adopting modern developments in the technology of housing production aimed to bring about overall economy in building. These may include adoption of prefabricated building techniques; standardisation and modular co-ordination in building; and better organisation of the building industry.
13. The application of results of research and experimental constructions should be undertaken, systematically as per

the Development Cycle Scheme to achieve economy in building.

14. The establishment of building centres by the developing countries would significantly contribute to the promotion of house building and the rational use of resources. Housing co-operatives can be instrumental in expediting the establishment of building centres and wherever such centres exist these should be taken advantage of in full measure.

9. ARCHITECTURAL SERVICES : Efficient and Economical Designs of Dwellings

K. R. JANI

Modern living and efficient dwelling design is considered to be inextricable. Great significance is being attached to efficient designs of dwellings on account of the need to reduce construction costs. Moreover in urban areas, the designs of dwellings have to be evolved in conformity with the building bye-laws. The planning and designing of dwellings has become a complicated matter if functional needs and structural requirements are to be adequately fulfilled. New materials and construction technology is being increasingly adopted to improve the quality of construction. The cost of construction has gone up considerably and the designs of dwellings should be so evolved as to enable construction at economical cost by making proper use of spaces and structural forms and materials. The role of architects, in planning the lay-out of housing colonies and design of dwellings is therefore, increasingly being recognised and architects have to shoulder great responsibilities in creating environments for promoting better living.

The design of the internal environments of dwellings cannot be considered in isolation. Architects have to take advantage of the services of several specialists like town planners, structural engineers, public health engineers, electrical engineers and builders. The building activity is, therefore, team work of different specialists and the architect has to establish proper co-ordination to achieve the best results. In the developing countries and particularly in Hong Kong, the Architectural Section of the Authority dealing with housing, in addition to the planning, design and supervision of the construction of housing estates, undertakes the general co-ordination of development and building

work, maintains liaison with private architects and consultants employed by the Authority, keeps close contact with the public utility organisations, other service divisions and departments, and engages in research and experiments in the technical aspects of housing. The concept of group housing is being increasingly adopted specially in urban areas and here the architect has also to take into account social and economic aspects in the preparation of the housing scheme. Therefore, housing co-operatives should give due importance to architectural services. In fact it would be desirable if right from the inception of any co-operative housing scheme, architectural services were obtained so that technical advice is brought to bear at all stages of the development of the project, which would mean a built-in measure of success.

The architect has to provide such living and working conditions in dwellings as are conducive to human health, comfort and general well-being. It is this which should sponsor the urge to give more attention to a reasonable and scientific determination of the requirements of buildings in respect of thermal, audio-visual comforts and to a consideration of how these can be best procured both practically and economically under different conditions.

The services of qualified and trained architects are now widely available and professional standards and codes have been laid down governing the conditions of engagement and scale of professional charges. For procuring competent architectural services the housing co-operatives may seek the advice of professional institutions.

The housing co-operatives, in turn, should provide the necessary guidance to member house-builders as regards planning, design and construction of houses. It will be useful if the co-operatives could provide typical designs of houses indicating brief specifications and estimated cost of construction based on the specific requirements to be met. These will serve to guide the prospective house builders who can then approach the architects with more precise requirements.

It is necessary for the housing co-operatives to take greater interest in house building which is generally left to individual builders. In Metropolitan cities, multi-storied apartments dwellings are in vogue and for undertaking such projects on a

co-operative basis it is necessary to obtain architectural services for planning, designing and construction. It may be considered whether a similar approach can be developed in the case of low-rise housing construction on a co-operative basis.

The world population is increasing and adequate new dwellings are required, to prevent overcrowding of existing dwellings or use of makeshift structures or an increase in the homeless. The increase in population comprises not only natural increase, but also increase due to migration in urban areas. This increase in urban population affects housing needs.

The problem of providing houses for people is gigantic and challenging. It is impossible for any government alone to tackle the problem. People have to develop their own resources in kind, cash or labour and have to take initiatives and show enterprise and confidence in solving their housing problems. The best way to mobilise people and utilise their energies and channelise their resources into housing activity is through co-operatives, which serve as good public agencies to channelise benefits to the people.

Housing needs are so great that co-operative development must be regarded more as a stimulus to better housing than as a narrowing down of private initiatives. Co-operative housing lowers rental and housing costs for the consumer because of the elimination of speculative profits, economies of scale, the standardisation of structures and equipment, creation of groups, co-operative techniques and through maintenance by the occupants of the dwellings.

Co-operative housing also encourages initiative and self-help thereby relieving government of the administrative burden, it spreads ownership and responsibility thereby reducing the concentration of economic power in the hands of a few, retaining also the advantages of flexibility and availability, and promoting the availability of housing whether in rural or urban areas.

Co-operative housing forms a part of the Co-operative Movement as a whole. It is, therefore, necessary that a close collaboration exists between the housing movement and architects, planners, engineers and other institutions and agencies. By such collaboration the housing movement is likely to get support in many aspects.

An important aim of the co-operative housing movement

is to provide functional and efficient housing at low costs. The beneficiaries can make substantial savings in cost through group action. Architectural services can be arranged on a large scale; building materials can be obtained more economically when purchased in bulk quantities; full utilisation of new materials and equipment can be achieved on a project basis and the profits of middle men and speculators can be eliminated.

In solving housing problems, housing co-operatives in Japan, Hong Kong, Malaysia, India and other countries of this part of the world have been playing an important part along with government and semi-government agencies dealing with housing.

ARCHITECTURAL PLANNING

Architectural planning ensures economy, efficiency and also has a primary effect on the cost of construction. It covers such items as the size and shape of plots and of houses, efficient utilisation of space, positioning and number of doors and windows etc.

Knowledge of people, their life and habits can have a far reaching effect on the design process, influencing not only the numbers and types of dwellings to be provided but the character and focus of the community. Besides knowing the total life of the community, information must also be secured on the differing compositions of the basic household units and their economic status, particularly their ability to pay rent.

It is universally realised that efficiency and economy in building construction cannot be achieved except through detailed planning in advance. The word 'planning', covers architectural and structural, proper choice of labour, building materials, organisation of research in building materials, organisation of research in building construction and the production of building materials, development of the building materials based on local resources, organisation of building construction, training the people in construction work, organising mutual help teams in construction work, organising housing and building co-operatives, financing pilot projects and new methods of housing construction using new materials and new techniques, etc.

DWELLING DESIGNS

Check List : Number and size of living rooms based on bed and furniture layout. Height of ceiling—local regulations. Minimum permissible height subject to good cross-ventilation. Heights of partitions—to ceiling or below.

Clothes cupboards, hooks, hanging rails; closed or with curtains. Disposition of other vertical space in cupboards-shelves-ventilation.

Other cupboards, shelves, recesses in walls in lieu of shelves or for religious objects.

Doors and windows—of wood, metal, reinforced concrete or composite—for what purpose required—standardised over what number of units—cost and durability—avoidance of duplication of keys—curtain rails—shutters—combination with verandah—vertical or horizontally pivoting to provide large opening—high windows on certain walls in combination with low-curve ventilation—top-hung solid shutters—permanent louvre windows—glazed windows.

Cast concrete or metal protection for general security, Choice of fasteners, locks, etc. for security.

Low and high permanent louveres on other openings for cross ventilation and night ventilation.

Communicating doors—position of minimum number, swing of doors, if any, and curtain rails.

Floors—materials—stabilised earth—brick and cement mass—concrete—reinforced concrete—other materials—finish—sanitation—easy cleaning—freedom from cracks—junction with walls—skirtings and plinths—colours—tiles—supported floors—pre-cast—timber.

Kitchen

Should cooking be on verandah or in enclosed kitchen? Traditional method of cooking on wood, coke, electricity or other form? Local diet and habits of cooking in relation to cooking apparatus—any changes due to new conditions—comparative costs of cooking.

Type of flue to cooker, prevention of smoke if need for hood—or cowl-draught.

Fuel used—storage—inside or outside kitchen.

Local method of preparing food—any changes due to new conditions—work space at what level, high or low.

Storage of implements, crockery, cutlery, etc. Any changes in habits. Hooks, shelves—reinforced concrete or timber—finishes and painting—fixing—built-in or fixed later—recesses in wall.

Storage of food—types of, quantities—liability to decay, attack by rats and mice, flies, ants, etc. Need for protection—ventilation—security.

Position of water point and sink—high or low—sink water point shared with wash space or W.C.—drainage of kitchen floor to sink or not—washing of cooking implements—height of bib-cock or tap, type of drain and trap—grease trap or not.

Lighting of kitchen—electric point over work area—power point or not.

Is kitchen used for family eating or only food preparation—hatch to living room—folding table in kitchen—used for eating and food preparation—high or low.

Wash Space

Covered or uncovered—with door or screen wall only—position of shower point—type of shower nozzle—shoulder height only and inclining downwards soap recess—seat-hook for clothes—draining of floor—threshold or not—lighting, shared with W. C. or not—or kitchen—finish of walls—floor-mirror.

W.C.

If water-borne, position in relation to drain—grouped W.C.s— if not water-borne method of servicing—nearness of house—or grouped latrines—door height—method of locking.

Washing

How is family clothes washing and drying done—in house—or communally—hot water or cold—type and quantity of washing done.

Vehicle

How to store a bicycle, perambulator, scooter or car.

Verandah

Which room to protect—how deep—for family group—working verandah with kitchen, etc, or social verandah—covered entirely or partly—solid cover of pergola—protecting wall or not flower box or low table top, or sitting space—steps to verandah—way into house—protection of social sitting group—relation to garden, if any—lighting—meals on verandah.

HOUSE STRUCTURE

Roof

Single pitch, double, or flat roof or arched—means of insulation from sun—double ceiling or single flat or inclined ceiling—ventilation of double ceiling—ventilation of upper parts of rooms—height of ceilings—spacing or rafters and purlins for standard roofing sheets—other types of roof—length of timber available—standard mill sizes—protection from infestation—impregnating—creosote, etc. Fixing systems.

Pitch of roofing—minimum angles—lap of sheets for various wind and storm conditions—weight of sheeting used—ridges and how to avoid them—hips and impossibility of—collection of rainwater—gutters and public health regulations—contraction and expansion in concrete slabs—behaviour of concrete slabs on brick and block ceiling.

Walls

Roof load—choice of material—stabilised earth—brick—concrete block—R. C. frame and infill—timber—metal—thickness—standard sizes—insulation from sun—finish of walls rendered or not—painting—colour wash—cement—paint—distemper.

Damp-proof course in conjunction with slab—necessary or not—terminate protection.

Anti-splash apron—anti-splash plinth—relation to damp proof course—gutter and relation to eaves line.

Human Requirements

To be universally acceptable by both the developing and the more developed nations and to be free of the special demands created by local factors of climate, geography, social

practice, custom and tradition and a healthful residential environment.

Design of dwellings should be based on anthropometric studies for scientific determination of space requirements for achieving effective and economical planning. Design of furniture and equipment is also related to anthropometric dimensions for greater working efficiency and comfort. Undue waste of space can be avoided, if the room sizes are governed by the dimensions based on anthropometric studies, and the requirements of the equipment and the desired clearances associated therewith. The requirements of various spaces in a small dwelling and the functions to be performed are as under:

- (i) **Living Room or Multi-Purpose Room**
 - (a) Entertaining visitors;
 - (b) Sitting and recreation;
 - (c) Conversation;
 - (d) Dining;
 - (e) Children sleeping;
 - (f) Any other activity when the above activities are not being performed;
 - (g) Internal Circulation;
- (ii) **Bed Room**
 - (a) Sleeping;
 - (b) Resting and relaxing;
 - (c) Entertaining casual visitors;
 - (d) Reading, story telling;
 - (e) Storage of boxes, bedding and clothes, etc.;
 - (f) Resting of sick persons and doctors attending;
 - (g) Any other activity normally performed in a bedroom;
 - (h) Internal circulation;
- (iii) **Kitchen**
 - (a) Cooking;
 - (b) Dining;
 - (c) Food storage;
- (iv) **Bath Room**
 - (a) Bathing;
 - (b) Washing clothes and utensils;
- (v) **W.C.**

It is difficult to recommend minimum standards related to the design and requirement of dwelling units. Conditions affecting housing in the various areas of the world are so different that efforts to obtain precise information are not practicable and only the general framework can be suggested. The human requirements for space are likely to differ depending upon the climatic conditions of the region in which the dwelling is located and upon the socio-economic and cultural standards of the population. However, as a minimum a room and a verandah or two rooms, kitchen, bath and W.C. is recommended for healthful and better living.

EFFICIENT UTILISATION OF SPACE

Twentieth century civilisation has brought a number of changes in the way of life and thinking of people at places all over the world. New values and concepts of physical living and material possessions are likely to replace the old, rendering them obsolete and redundant. Many under-developed, countries are undergoing a rapid socio-economic transformation, industrialisation and urbanisation.

Skill is essential to develop small compact plans where all the spaces are utilised to the fullest advantage without the effect of crowding. To bring simplicity, harmony and refinement in the exterior as well as interior design of small dwellings the talent of competent and experienced architects is required.

The various elements of a well designed house are : balance in quality, quantity and cost so combined as to result in a satisfactory shelter unit. The necessity of well-balanced design is especially evident in the small low cost house. Here the maximum amount of useable space with as much as comfort, convenience and privacy as possible must be obtained for a minimum amount of money. To achieve this object construction, furniture, fixtures and room arrangements must be related and considered together. The starting point of building design is the plan, for it is here that all essential elements of the house are brought together and are co-ordinated.

Experience has demonstrated that planning a well-designed livable house that can be built economically is based upon a few fundamental principles. These principles of planning can

be broadly grouped as those which affect liveability and privacy, exterior and interior pattern and construction cost. Many of the principles overlap and are mostly inter-dependent. To reconcile conflicting demands for space, liveability, appearance and low cost, compromises must be made.

To obtain the maximum amount of liveability and privacy within the minimum area is a major problem in the planning of low-cost dwellings. Liveability of any house is dependent upon the adequacy of room areas, the relationship of rooms to offer privacy, circulation within or between rooms, room expositors and equipment that provide for convenience and comfort of the occupants. Economy in planning requires the elimination of waste space especially corridors, areas of communication, verandahs, etc., and planning of rooms for dual purposes.

The ratio of the living space to the plinth area is a good index of planning efficiency. Endeavour should, therefore, be made to obtain as high ratio as possible, by reducing to the minimum the circulation space and the area under walls, doors and windows.

In many designs, little importance has been attached to the use to which the room is to be put, and the shape of the room is decided in relation to the final plan. The factor that determines the shape is the suitability of a room to accommodate its particular furniture. The position of doors and windows is most important in a small house. The living room in a small house may also serve as a passage to the kitchen, dining, bedroom and bath room. Liveability of the living room largely depends upon the wall space and the location of the wall openings which permit desirable furniture arrangements inside the room. Furniture is more easily arranged for convenience and practical use when doorways are placed at one end of the room. The design should be such that while the area for windows and doors is sufficient for light and ventilation, there should be enough wall space.

Keeping the number of doors to a minimum will increase the utility of the room. Considering it the other way by reduction in the number of doors and regulation in their sizes and position, room size can be reduced without decreasing its utility.

In the early history of the house, there was a big hall in which every one ate and slept. Out of this emerged bedrooms and then came the dining rooms, the study room, library, kitchen and so on. The tendency now is to break down these divisions and to have what has become known as the "Free Plan" which is more in line with the less formal way of life today. In short, it presents a combination of modern sociological standards of life with a progressive use of new materials and new building techniques.

Horizontal and Vertical Circulation Spaces

In the lower type of dwellings, it is difficult to provide independent access to all the rooms, but in the case of higher types, it should be possible to provide independent passages. Entrance through one of the rooms lowers the utility of the accommodation. As far as possible it should be endeavoured to provide access through a lobby or a verandah. Where it is not possible to avoid passage through the living rooms, the doors should be kept on one side to prevent cross passage. Further, the passage should be along the width and not the length of the room. Wherever independent passage is provided the clear width need not be more than 1.1 m. (3 ft.). The verandahs if provided should have a clear width of 2.2 m (7 ft.) with a provision to enclose them for reasons of security. This has the added advantage of verandahs being able to be used for dining and sleeping which is specially convenient in the smaller types of dwellings.

In metropolitan cities land values are very high. Multi-storeyed tenement construction is unavoidable. In countries like Hong Kong, Japan and Singapore, multi-storeyed buildings have become common place. In India also, cities like Bombay Calcutta and Madras have to switch over to the construction of four and multi-storeyed buildings. In the design of such buildings the provision of access to the tenements is a matter of major importance. Arrangements to bring down the proportion of the circulation space to the built-up area are:

- (a) Provision of a balcony access or a corridor whereby 4 to 8 flats in each floor can be served by one set of staircases.

- (b) Planning of flats in a crossed, triangular or starshaped pattern.

The balcony access is economical but it is inconvenient during stormy weather and reduces the privacy of the flats that have to be crossed in order to gain access to the flats at the other end. However, nowadays access through a lobby or a passage has been found satisfactory.

Shape and Size of Dwellings

Room sizes can be appreciably reduced if attention is given to the position of furniture and fixtures sizes and location of doors and windows etc. Built-in almirahs, wardrobes, dressing tables etc. will also help in the reduction of room areas without effect of crowding.

More and more furniture and household accessories will be required in future dwellings provision to make them habitable according to prevailing standards. It is better and economical therefore to include some built-in furniture and fittings. Incorporation of certain built-in details of furniture and storage and detailing of surfaces may add little to costs but it enhance the efficiency of space utilisation in various ways. Similarly small kitchen units may have to change to standing level cooking, from the squatting type of cooking. For standing level cooking, a table, sink etc. is a must.

For good liveability, an oblong shaped room is more economical and convenient than a square shaped room, since it provides the maximum amount of floor area with the lowest amount of wall area. Corner construction costs more than straight wall construction, due to extra expenditure in corners and increase in length of walls with the result that oblong shaped plans are less costly than L U Z shapes. This shape also simplifies the structural framing system and also the framing system of the roof, and thus effects economy.

It is most economical and convenient to build houses in rows. In this type of construction there are savings in walls, and the exposure to weather is limited to the front and back walls. If houses are built individually or are semi-detached or detached then all the walls will be exposed and the house will be very hot in summer and cold in winter, and will also be ex-

pensive. Proper ventilation and light can always be arranged in small houses built in rows as the front and back will be open. Front and back courtyards, in a single storeyed building, will give additional convenience in a tropical climate. In countries like Indonesia and Korea single-storeyed houses with yards for garden space have been popular. Even in India and Malaysia, in the principal towns the majority of the people prefer a house (preferable detached) with a garden and courtyard. This trend is, however, gradually declining now as land in city limits is scarce and costly.

Four-or-five storeyed flats without lifts have become popular in most of the cities. High multi-storeyed buildings and skyscrapers are also coming up where land is scarce and expensive. Such construction will have in ground and in lengths of services like roads, water supply and sewage lines, rows of trees etc. The incidence of cost of development of land for houses ultimately comes out of the rents. Therefore, economy in land use and lengths of services will go a long way in reduction of housing costs. In Korea, municipalities give tax exemption privileges for those who build high multi-storeyed buildings or apartments in specified locations. Hong Kong claims to be the most densely populated place in the world. It faces the physical nature of its territory which has many mountains, and where land suitable for dwellings is scarce, or has to be reclaimed from the sea, which is expensive. This also applies to the city of Bombay in India. Sites can, therefore, only be used economically for multi-storeyed buildings, and multi-storeyed fire-proof buildings are constructed in Japan and in large cities where the housing shortage is very severe.

In rapidly growing urban centres, dwelling designs have also to be evolved for:

- (i) The transitional nature of living
- (ii) Bunker style
- (iii) Barrack style
- (iv) Flexible style

PLANNING IN RELATION TO CLIMATE

Special attention should be paid to climatic features such as temperature, humidity, rainfall, winds etc. which are very

relevant from the point of view of living comfort inside the house. A healthy residential environment is one in which an individual is comfortable. Climate affects not only human beings but materials, and the design of dwellings has to be modified accordingly. Natural forces like earthquakes, hurricanes and cyclones also affect the planning of dwellings. Japan is subject to frequent earthquakes and typhoons during the summer. Furthermore, serious damage is done by termite and rot. Therefore, architects while designing the dwellings have to select building materials which are proof against earthquakes, typhoons, fire and decay. The climate in Japan is cold in winter especially in the northern regions where the temperature drops below freezing point while in summer not only is the temperature high but the humidity often exceeds 80 per cent. Good ventilation for summer time comfort is an important consideration in designing the dwellings: while in winter ample sunshine is required at the same time as protection against the hot sun. Fiji experiences winds of up to 90 kilometres per hour and buildings are damaged or destroyed by hurricanes. Dwelling designs are, therefore, mostly single-storeyed.

ORIENTATION

The orientation of residential building contributes to its interior comforts. A correct orientation entails no extra expenditure. Planning of dwellings in relation to the sun requires special attention in tropical climates in order to provide indoor thermal comforts. This not only involves correct orientation of buildings but also the selective use of materials and intelligent design procedure.

In hot arid regions, usually the diurnal variation in temperature is high. Direct heat penetration into the wall and roof has to be prevented and controlled by choosing materials with low diffusivity. Preferably such buildings should be ventilated freely during the night time to allow the walls to lose the accumulated heat, otherwise, the cumulative effect of the heat stored during summer days will make the room intolerable during the daytime. At night, the preference in this climate is to sleep in the open. If indoor night-living is required, the rooms should be of light construction which, while it may make

the rooms uncomfortable during the day will enable their quick cooling after sunset. In ordinary low-cost housing separate provisions for the day and night living inside the building are not possible as the indoor space available is too limited.

The heat of radiation absorbed by the roof and walls depends on the angle of incidence of the rays on the respective surfaces and the duration. A flat surface like the roof gets the maximum punishment. Next in intensity is the heat falling on east and west walls. The north and south walls receive maximum heating effect seasonally. The angle of incidence of the sun's rays on the north and south walls in summer is comparatively greater and hence its cosine smaller and these walls can therefore be protected by some shading devices. It will thus appear that the east and west walls should receive careful shading and protection. In row houses this is possible by building the houses with north or south aspects, the east and west walls of all but the end houses serving as internal walls in the blocks. The unprotected length of east and west walls in houses with other orientation should be kept at the minimum and insolation through openings and windows should be avoided by screens.

In hot humid regions, the main factor that controls the design for comfort is ventilation. Air movement enables the body to lose heat by evaporative cooling. The orientation of buildings in such climates should, therefore, take advantage of the winds and particularly the low-velocity winds. The windows and permanent ventilation in such buildings should be placed low and through ventilation should be ensured.

In orienting buildings in the humid tropics, the effect of the monsoon winds or gales and of wind-driven rain should be borne in mind. Protection against the rain should be by canopies, *chajjahs*, *verandahs* and other means. Even the low velocity winds are critical and these should be admitted by careful positioning of openings.

Protection against the sun is often possible by the design of suitable roofs and the walls, provision of *verandahs* and by careful grouping of the rooms. *Chajjahs* and *verandahs* should be used as shading devices with care, as *Chajjahs* are of no value on the north face and of doubtful value on the east and west faces though they are of some use for protection of openings

against rain. *Verandahs* on the north are of use in summer but will be rather cold in winter. In the east too they are of limited value. They are best placed in the west if protected from the evening summer sun by screens like chinks. They are quite unnecessary and often disadvantageous on the south especially in the northern hemisphere.

CEILING HEIGHTS

Experiments conducted by various research institutions have proved that the height of a ceiling beyond 2.75 m (9 ft.) has very little effect on thermal comfort in a room. There are several advantages to be gained in keeping to this minimum height. The lower ceiling height not only economises in labour and materials but also helps designers to achieve well proportioned and attractive elevations. Lower ceiling heights are being adopted in all the developing countries.

Some of the advantages of reduced ceiling height are given below.

Architectural Aspects

(i) Window height can be increased up to ceiling level with the corresponding effect on the interior space and facade. The increased window height improves air circulation, and facilitates the removal of odour from under the ceiling.

(ii) With over-hanging roofs and large ceiling the area is shaded.

(iii) In multi-storeyed buildings the length and the area of the staircases are reduced with consequent simplification of the Plan as a whole. In addition, the staircase can sometimes be laid out in a single flight.

(iv) A low ceiling height gives an appearance of greater spaciousness. It is also preferable from the point of view of proportion and creates a feeling of comfort in contrast to the disagreeable sensation experienced in a small high-ceilinged room.

(v) In multi-storeyed buildings, the number of storeys can be increased without affecting ventilation and without necessitating changes in block spacing resulting in reduction of site develop-

ment and land costs for dwelling units.

(vi) Pre-cast units for walls and partitions are reduced in weight, facilitating an increased use of standard elements.

(vii) The area exposed to Solar radiation and weather is reduced.

Economic Aspects

(a) Operation and quantities are reduced for walls, partitions plastering and rendering staircases and stair-rails, sanitary and electrical installations, etc.

(b) The weight of the walls is reduced with the consequent reduction in the dimension of other structural elements such as foundations, columns and beams.

(c) For multi-storeyed buildings site development costs i. e. earth-work, roads, sewerage and water supply system, etc. for dwelling units can be reduced.

(d) With the use of pre-cast wall elements many advantages are derived from the reduction in weight, with regard to handling, transport and assembly, entailing further reduction in cost in addition to that directly derived from the reduction in quantity.

(e) Cost can be reduced by 12 per cent to 30 per cent due to the reduction in services and materials.

VENTILATION

For adequate ventilation in a building, it is necessary to provide sufficient open space both in front and the rear and, if possible, on one of the sides as well. Ventilation openings are classified as permanent or occasional. The former refers to all types of openings that cannot be controlled, such as air bricks and fixed louvres. Occasional openings are regulated to suit individual requirements. The latter category includes windows, doors and adjustable louvres.

The permanent openings ensure that a minimum amount of fresh air always enters the room. These are specially necessary for water closets and bath rooms. The occasional openings are intended for promoting indoor comfort. This is achieved by increasing indoor air movement and the displacement of warm air indoors by cooler outside air. To obtain the best advantage

the choice of the type of ventilation should be influenced by the following:

- (a) The building and the openings should be so oriented that the fullest possible use is made of the prevailing winds during summer time, provided that all glass area can be shielded from direct solar radiation.
- (b) The parts of the windows which open on the windward side of the houses should preferably be at a low level and may be so designed that the incoming air stream is not deflected towards the ceiling but rather over the occupants.
- (c) Openings should be provided in the leeward side of the house to act as outlets. These should not be smaller than the inlet openings.
- (d) The resistance in the path of the air as it flows through the buildings should be as low as possible, otherwise the advantages of large inlet and outlet openings are reduced.

The provision of simple openings on top of doors cannot produce the necessary ventilation as it cannot result in air circulation without an opening on the leeward side. The revolving type of ventilator induces natural air circulation.

The sizes of doors and windows have to be fixed considering the functional requirements and the climate. The number of doors should be minimum in a house consistent with the requirements of circulation.

A window is required for ventilation and light. In dry hot climates, where the sun shines brightly all the year round, a small area will give adequate light. In extreme climates direct breeze from outside are not welcome and therefore smaller windows are required. Window areas up to 10 to 15 per cent of the floor area are all that are required for comfortable and healthy living in such climates.

On the other hand in a wet-hot climate, larger window openings are necessary, of approximately 16 per cent of floor area.

In the hills, where there is a likelihood of clouds and

fog, even bigger windows are required for proper light and a good view for the house.

PLANNING A LAY-OUT

Planning of the functional lay-out of a colony depends upon the size and shapes of the dwellings to be accommodated. The pressure of land in most urban and semi-urban areas is becoming more and more pronounced with the result that there is a great need for economy in land use. In metropolitan areas land values vary from sector to sector and, therefore, land utilisation should be exploited to the maximum extent for economy. An economical and functional lay-out should be prepared keeping in view local building regulations and making full use of permissible F. A. R. (Floor Area Ratio), density and ground coverage.

Whether the construction should be of single storey or of two or more storeys will depend upon the land value prevailing in the area. High cost of land leads to intensive building and multi-storey buildings are preferred. Such constructions, however, are possible in areas only as a commercial enterprise or as a co-operative effort in building. In the case of owner occupied tenements or flats in an apartment building, combined services and spaces will have to be maintained by the community.

The service lane between two rows of houses in practice deteriorates into garbage dumps as the owners do not have any responsibility for its proper maintenance. Besides increasing the cost of services this places a heavy load on the estate of the municipality. Therefore, the back lane may be dispensed with altogether in the case of detached and semi-detached houses.

Building of flats in tall buildings does not necessarily save land in proportion to their height but provides open space and green belts necessary from the point of view of health and hygiene. Detached or semi-detached houses offer the advantages of flexibility in planning and layout and the possibility of future extension. Row houses, on the other hand, are cheaper in terms of land and services. Houses constructed in rows of five and six are found to be advantageous in this respect. In a layout it is desirable to group various types of dwellings by

carefully planning a mixed type of low and high rise buildings, which creates an interesting pattern and skyline and gives a feeling of unity, neighbourliness and social balance to the community.

The cost of roads is a substantial proportion of the development cost of estates. The length of paved roads should, therefore, be reduced to the minimum. Approaches to rows of houses and high mix apartments can be provided by lanes taking off from the main road. This also reduces the traffic hazard for children living in the colonies.

In developing new residential areas, it is essential from the point of view of good planning to ensure that these are made to fit into the general lay-out of the neighbourhood or the town so as to derive benefit from the existing facilities with respect to places of work, education, recreation, medical aid and shopping according, to the formula of "Man, Place and Work". This is necessary in order to avoid haphazard development. Extensions not big enough to constitute a civic unit with self-contained amenities and sited in isolation from the parent towns are invariably a source of financial and administrative embarrassment. In big towns where a very large number of new dwelling are to be built, it may be possible to plan a new self-contained community. In such a community due regard must be paid to industrial, social, educational and recreational centres and their relation to the new development as well as to accommodation for the different classes of people.

The careful disposition of amenities such as parks, playgrounds, recreational facilities and shopping centres would go a long way to solve the problem of "social balance" but the main key to the solution would lie in the grouping of the various types of dwellings in such a way that they meet the needs of the various social groups in the matter of immediate convenience and use, and yet, at the same time, form an integral part of the neighbourhood.

Shops for catering to the daily needs of the families and nursery of primary schools for children should be provided in different wards. Due place should also be given for landscaping and horticulture in the lay-out. The local shopping centre should be an important element in a neighbourhood plan. One of the key factors in providing adequate facilities for shopping

is a knowledge of the number and kinds of shops required for each neighbourhood.

STANDARDISATION AND MODULAR PLANNING

In order to meet the need for the number of housing units, new construction systems and techniques have been devised with a view to reducing present wastage in energy, materials and building products.

The limitation of capital investment of developing nations makes rationalisation of building methods more urgent so that the funds available for housing could serve a larger number of families than when a wasteful and un-coordinated construction method is used. For this reason, the use of standardisation modular co-ordination, as a system devised to correlate the size of materials and component parts, serves to eliminate waste, fittings and loss of time.

Standardisation itself contributes character to building roof spans, prefabricated panel walls, balconies, windows and entrance doors, and yet if they are carefully designed, the results will be far from dull: they may be combined in interesting ways and variations introduced by using different combination of colour, smooth as well as rough finishes, light and dark surfaces artificial and natural materials and so on. It is not extravagant to spend time on the careful design of standard parts of houses if it ensures really efficient, durable, attractive and inexpensive results.

Modular co-ordination provides a link between design planning, manufacture of components and their erection in the building site. The use of modular systems is required in any design in order to inject a systematic order for dimensioning the architectural spaces. It should be understood that modular planning involves no radical changes in the planning procedures. All components need to be fitted in the space allotted to them without time consuming and expensive modification.

Organisations such as building co-operatives, government and semi-government construction agencies, etc. could effect economy in labour, material and time in their construction programmes by adopting advanced techniques of construction,

i.e. modular co-ordination, standardisation, mechanisation and co-ordinated employment of trade gangs and thus accumulate experience and co-ordinated expertise.

Bringing together the services, the viewpoints and experiences of groups of architects, engineers, planners, technicians manufacturers and consumers and institutions concerned with the construction of houses and last but not the least the users will bring considerable economy and speed.

REPORT OF THE REGIONAL SEMINAR ON "THE DEVELOPMENT OF CO-OPERATIVE HOUSING IN SOUTH-EAST ASIA"

INTRODUCTION

A Regional Seminar on the "Development of Housing Cooperatives in South-East Asia" was jointly held by the ICA Regional Office & Education Centre for South-East Asia, New Delhi, the International Co-operative Housing Committee, Stockholm, Sweden, and the Co-operative Union of Malaysia, from October 19 to November 2 1970, in Malaysia. In the first week, the seminar was held in Kuala Lumpur, and the subsequent sessions were held in Penang.

Delegates from Ceylon*, India, Indonesia, Iran, Japan, Malaysia, Pakistan, the Philippines, Singapore and Thailand participated. In addition, observers from the United Nations, ECAFE, United Nations Development Programme and International Confederation of Free Trade Unions also took part. Resource persons from Sweden, Germany, the U.S.A., India, Malaysia and Singapore assisted the Seminar. The Seminar was directed by Mr. J. M. Rana, Director (Education), and Mr. Lionel Gunawardana, Joint Director (Publication & Public Relation) of the ICA Regional Office & Education Centre for South-East Asia. Mr. P.E. Weeraman, ICA Regional Director for South-East Asia, participated in the Seminar for some time.

The seminar was inaugurated by Y.A.B. Tun Abdul Razak Bin Hussein, Prime Minister of Malaysia, in the presence of a distinguished gathering. The valedictory address was delivered by Y.A.B. Dr. Lim Chong Eu, Chief Minister of the State of Penang, Malaysia.

The Seminar received financial support from the Swedish Co-operative Movement and the Swedish International Development Authority through the funds made available by these agencies for educational programmes to the ICA Regional Office &

*Now Sri Lanka.

Education Centre, and the International Co-operative Housing Committee. The latter also made available resource persons from the housing movements of Sweden, Germany and the USA. The Co-operative Union of Malaysia played host to the Seminar and rendered valuable assistance in terms of local costs, practical arrangements, study visits, provision of local lecturers etc. The Seminar expressed its profound thanks to the above agencies.

Working Methods of the Seminar

After the inauguration, the seminar spent two-and-half days in discussing the co-operative housing situation in various countries of the Region, on the basis of the background papers prepared by the participants. Talks were then given by specialists on various topics relating to co-operative housing. Important issues arising out of these talks, and discussions on participants background papers were formulated and discussed in detail in groups. The group reports were subsequently discussed at the plenary sessions.

Study visits were arranged to housing co-operatives in Kuala Lumpur, Petaling Jaya and Ipoh.

HOUSING SITUATION IN THE REGION

The Problem : Its Urgency and Scope

It was noted that most of the developing countries in the Region were experiencing a tremendous increase in population, industrialisation, and massive urbanisation, which have led to serious housing shortages, severe congestion in urban centres, the formation of slums and squatter settlements, inadequate community facilities and health services, frustrating metropolitan traffic and transport problems, wasteful sub-division and ineffective use of urban land, the spiralling of urban land prices and a host of other problems.

With a few exceptions, the developing countries in the Region had not been able to meet the needs of the population for adequate housing. There had, therefore, been a general deterioration of the housing and environmental conditions, especially in the large metropolitan centres and other urban areas. The rapid increase in the urban population due to large-scale

ration from rural areas had further aggravated the housing situation.

The Seminar expressed deep concern at the serious housing situation confronting the developing countries in the Region and pointed out that unless adequate remedial measures were taken without further delay, these problems would lead to serious social, economic and political consequences. In this connection the Seminar recommended that a comprehensive, vigorous and sustained approach be adopted to tackle the above problems with due regard to such functions as removal of slums and squatter settlements, prevention of excessive metropolitan concentrations, removal of unemployment, formulation of rational urban land policy, as well as other relevant social and economic aspects of urban and regional development.

Many developing countries in the Region were suffering from low levels of productivity and high building costs, shortage of financial and material resources and skilled manpower, and chronic unemployment, particularly where urbanization was outpacing industrialization.

Government Policies and Programmes

In most countries of the Region, governments have undertaken direct public housing and physical planning programmes to ameliorate the critical housing situation and the problems associated with rapid urbanization. Despite the efforts made and the measures adopted, little progress had been achieved, and the situation remained unsatisfactory in most of the developing countries. The principal reason for this situation was that, although it had generally been accepted in most countries in the Region and elsewhere, that social planning was as important for development as economic planning, and that social development must be integrated with economic planning, in actual practice, the social aspects of development had often, if not always, been overlooked or neglected, because of the erroneous assumption that social progress would follow economic development automatically. As a result, a comparatively lower share of the national income had been devoted to housing and related programmes than what was required in terms of the social and economic needs. The situation, however, has been gradually changing.

Until recent years, the inability of the developing countries in the Region to cope with the serious housing situation was attributable mainly to: the lack of clearly defined, comprehensive housing policies, realistic programmes and adequate funds for their implementation; inadequate administrative machinery for dealing with housing and urban development problems, aggravated by the lack of trained technical and management staff; lack of adequate financing schemes for encouraging private savings for home construction; lack of rational urban land policies for preventing land hoarding, and the spiralling of land prices; lack of appreciation of the benefits of housing cooperatives, and failure in most of the countries to tap the immense potential of self-help housing, especially for the rural areas. In view of this, the Seminar emphasized that the acquisition and financing of suitable land for low-cost housing were major problems that should engage the attention of several developing countries for many years to come.

The seminar was glad to note that assistance to governments for strengthening existing institutional arrangements for housing finance, and the establishment of new ones, were a major components of the current work programme of the U.N./ECAFE in the field of housing, building and planning, and that a "Task Force on Housing Finance" would be organised by ECAFE for that purpose. The Seminar also expressed great interest in the study being undertaken by the United Nations in collaboration with the ECAFE which would deal with such measures as were necessary to build-up land resources for low-cost housing, facilitate land acquisition, prevent or discourage land speculation, and regulate land use effectively. Recognizing that the squatter problem was one of the most difficult and vexing problems facing many developing countries in the Region, the Seminar was glad to learn that a study on "Housing and Physical Planning Standards for the Resettlement of Squatters" would be undertaken by ECAFE in co-operation with the Regional Housing Centre, New Delhi, India.

It was noted that a number of governments in the Region have been giving increasing attention and support to the development of housing in their countries. Whereas a few years ago, the task of dealing with problems of housing and urban development was invariably assigned to small, relatively insigni-

ficant units in the Public Works Department, it is now entrusted to Ministries of Housing as in the case of Ceylon, India, Iran, Japan, the Republic of Korea, Malaysia and Pakistan. This task is entrusted to Central Housing Authorities in the Philippines and Singapore. Thailand is planning to establish a stronger body at the national level.

The seminar emphasized that in view of the critical housing situation and the problems associated with rapid urbanization in the various countries at the Region, as also the serious social economic and political implications, there was a pressing need for governments to adopt more effective measures for dealing with the problems involved. The Seminar recommended that governments should formulate comprehensive national housing programmes that would enlist the active participation and support of the public, the private and the co-operative sectors. In its opinion, the adoption of realistic targets and goals for housing and urban development programmes would provide the necessary basis for the mobilisation of national and local resources.

The seminar suggested that large housing programmes would be required for (i) arresting the deterioration of the housing situation and the excessive concentration of population in metropolitan areas; (ii) coping with the additional housing requirements as a result of the annual increase in the population, and with the demand for new and better dwellings resulting from the rise in family incomes; (iii) the gradual liquidation of the housing deficit; and (iv) replacing the dwellings that became obsolete or were destroyed by natural calamities such as fire earthquakes and typhoons.

TYPES OF HOUSING CO-OPERATIVES

The seminar reviewed briefly the activities of Co-operative Housing Movements in the Region. It might be said that co-operative housing societies had made noteworthy progress in some areas in few countries. However, in most countries of the Region, the co-operative housing movement was in its infancy. The Seminar recommended that high priority should be given to the development of co-operative housing in the Region in view of the great contribution it could make to alleviating the critical housing shortages by providing housing facilities to the middle

classes both in urban and rural areas and to the industrial workers. The co-operative movement was eminently suited for making an important contribution to the gigantic national task of building better and cheaper homes on account of its well-trying methods of self-help and mutual help and the appropriate organisational structures it could develop for mobilising people's participation.

Ceylon (Sri Lanka)

The first housing co-operative in Ceylon was formed in 1948. By 1958, there were 26 co-operative housing societies. One of them, namely, the Kiribathagoda Co-operative Housing Society with junior-most employees as members deserved special mention. It built 105 houses for its members at a cost of Rs. 2,250 in 1954 and in a record time of 105 days at the rate of one house a day. The reason for the low cost was that the services of the co-operatives were utilised at all stages of building. After the establishment of the National Housing Department, the co-operative housing movement suffered a severe setback as people preferred to form building societies¹ rather than cooperative housing societies, since it was easier and simpler to form building societies and to obtain loans from the Department of Housing through such societies. Notwithstanding these obstacles, the housing co-operatives made some progress, obtaining the required finance from the People's Bank, the Co-operative Banks, and the National Housing Fund.

In October 1970, there were 33 registered co-operative societies with a total membership of 1,407, a total paid-up capital of Rs. 233,089 and borrowed capital of Rs. 2,940,810. Some of these societies were inactive, or functioned only to collect the dues from the members. Sixteen of the above 33 societies were registered after 1960. But their activities remained somewhat restricted mainly due to their inability to obtain suitable land at reasonable prices and difficulties in raising needed finance.

¹ In Ceylon, a "Building Society" could be established by at least two persons. A "Building Society" is different from a "Co-operative Society" for the formation of which at least ten members are required.: Country Paper by M/s W.W.J. Mendis & R. Rajaratnam, Ceylon.

India

The Co-operative Housing Movement was started in India nearly half a century ago. The movement, however, did not play a significant part in solving the housing problem until after 1950, when it began to develop on account of the programmes included in the Five-Year Plans.

As on June 30, 1968, there were 13,817 primary housing societies with 884,020 members and working capital of Rs. 1547 million. During the years 1967-68, the housing co-operatives constructed 3,259 independent houses of the value of Rs. 30 million, and 13,563 tenements worth Rs. 227 million. In addition, the members themselves constructed 11,280 independent houses worth Rs. 62 million.

The co-operative housing movement had made considerable progress in the big industrial towns and cities. With the spread of the movement, apex co-operatives had been organised and registered in eight States, and they were playing a significant role in providing the necessary finance and guidance to the housing co-operatives in their respective States. A National Co-operative Housing Federation had also been established, which was expected to co-ordinate and guide the activities of the State-level institutions.

The following measures had been adopted by the Government to support the co-operative housing movement:

- (i) assistance in the organisation and formation of societies,
- (ii) grant of loans and subsidies to certain classes of housing co-operatives,
- (iii) subscribing to the share capital of apex co-operatives and guaranteeing loans given to them, and debentures issued by them, and
- (iv) granting exemption from registration fees and stamp duties.

Indonesia

Co-operative housing is of very recent origin in Indonesia. In 1952, at the instance of the Government, housing societies were organised in the municipalities and these were called Savings Organisations for Housing Development. These organisations

were not purely co-operative, but functioned as non-profit housing organisations and during the period 1952-62, they built about 1,500 houses. Several service co-operatives which had government employees as members had drawn up preliminary plans for housing development projects. The plans envisaged providing housing on hire-purchase basis to members, especially to those in the lower-income bracket.

Iran

The Co-operative Movement in Iran is of recent origin and the housing co-operatives were started only very recently. A number of employees of the National Iranian Oil Company formed a Housing Co-operative in Teheran in 1943. In 1957 another society, called the Credit and Housing Co-operative Society of Iran, started its activities. These societies have, up to now given loans to about 90 members to buy, build or repair houses.

Since 1967 the Government of Iran had paid greater attention to the housing problem. The Government was concentrating its efforts in promoting (a) Housing co-operatives for workers in industrial and rural areas, and (b) housing co-operatives in urban areas.

The Mortgage Bank of Iran, which is a government agency, is a major financing organisation for housing co-operatives. The Mortgage Bank promotes, finances and supervises the activities of housing co-operatives and the Savings and Loan Associations. The latter organisations collect small savings from the public and give loans to them for housing. While the former caters to the low income groups other than workers, the latter serves the middle income groups who contribute up to 40 per cent of the cost of construction of the houses. There are separate Workers' Housing Co-operatives and these are financed by the Workers' Welfare Bank. The funds in this Bank mainly comprised the resources of the Social Insurance Schemes for Workers.

The Mortgage Bank promotes and finances three types of housing co-operatives,

- (i) The first category of societies transfer the ownership of houses to the members upon completion of the houses, and the loan is transferred to the member, who repays it

- in instalments directly to the Bank. The society winds up after the transfers are completed.
- (ii) The second category functions in a similar manner with regard to building, but transfers the ownership of houses only after the full repayment of the loan is made to the Bank. After the completion of the transfer, the society may or may not continue to function. If it continues function, its main purpose would be to maintain the estate on a collective basis.
 - (iii) In the case of the third category, the ownership is not transferred to the member at all, but members would have the right to use the assigned property so long as they hold shares in the society and adhere to the conditions laid down by the society.

Japan

The exorbitantly high rate of rent that prevailed in Japan in the 1920s caused much hardship to tenants. The landlords took advantage of the acute shortage of houses to keep the rents high. The dissatisfaction among tenants led to a mass movement for reduction in house rents.

Housing co-operatives were formed to meet this situation. By 1941, there were 2,445 housing co-operatives with a membership of 23,705. These societies together had built 23,854 dwelling units. After 1941, the housing co-operatives ceased to function due to a variety of reasons, including lack of Government assistance which was expected when they were formed.

During the World War II, over 16 million houses were destroyed causing further deterioration of the housing situation. In order to solve the housing problem, the Housing Reconstruction Congress was formed at the initiative of the working class, and it played an important role in mass production of publicly owned houses.

In 1958, the Japanese Labourers' Housing Federation was established in Tokyo. This Federation was reorganised in 1968 into a corporation. It obtains its funds from the Government Housing Loan Corporation. Most of the construction work of the houses of this Corporation is carried out by the Housing Co-operative Organisations.

The special feature of the Japanese Housing Co-operative Movement is the involvement of the agricultural co-operatives in the provision of houses. The Central Union of Agricultural Co-operatives, which is the apex organisation of agricultural co-operatives in Japan, has a special department which undertakes co-operative housing activities.

Another organisation that encourages house-building in a big way in Japan is the Japanese Workers' Housing Co-operative. This organisation is not registered as a co-operative organisation, but it functions on a co-operative basis, and most of its activities are carried out through co-operative organisations.

Malaysia

Housing co-operatives were introduced in Malaysia after the World War II. House construction during the period of Japanese occupation was at a complete standstill. Slums developed in various parts of the major towns in the country giving rise to serious health problems. For reasons of security and employment, thousands of people moved to the towns, thus aggravating the already acute housing shortage. This situation resulted in the demand by landlords for high rentals and payment of "tea money" (lumpsum payment for occupation of homes). There was considerable over-crowding and sharing of accommodation. The members of the co-operative movement, who comprise largely salaried workers and wage earners, attempted to solve this problem through the co-operative method, and the first housing co-operative was established in 1942. In November 1970, there were 70 housing co-operatives spread throughout the country and they had a total membership of 40,000.

The housing co-operatives in Malaysia endeavour to develop housing schemes for ultimate house ownership by the members. When the cost of the properties are paid in full by the members, the homes are transferred to them, and they then enjoy complete ownership of the properties.

Thirty of the 70 housing co-operatives had completed 5,000 housing units valued at Malaysian \$175 million and a further 2,000 units valued at Malaysian \$60 million were under different stages of construction. Several of the remaining housing co-operatives would finalise schemes for the construction of homes for their members in the next two years.

Housing co-operatives in Malaysia have had to face serious problems arising out of shortage of suitable building land within town and municipal limits, and the difficulty of raising adequate funds on a long-term basis at reasonable interest rates. The problem of land is such that it is difficult to find a satisfactory solution. The housing co-operatives therefore have to develop housing schemes away from the towns where land is comparatively cheaper and easier to obtain. In future it may become necessary for them to encourage their members to live in flats, although at the moment the preference is for single dwelling homes.

Housing co-operatives at present obtain funds for the development of housing schemes from within the co-operative movement itself, mainly from the co-operative thrift and loan societies, the Co-operative Central Bank and the Malaysian Co-operative Insurance Society. Efforts are being made to obtain long-term loans from other sources.

Pakistan

In November 1970, there were 367 housing co-operatives in West Pakistan with a total membership of 66,994 and a working capital of over Rs. 150.18 million. These societies had built over 50,000 houses. In East Pakistan* there were 73 co-operative housing societies with a total membership of 8,774 and a working capital of over Rs. 9.6 million. The societies had so far built 504 houses, and another 497 houses were built by the members with the assistance of the societies. In addition, 3,026 low-cost houses had been built on a self-help basis, with government assistance, under the rural rebuilding programme.

The main source of finance for housing co-operatives was the House Building Finance Corporation of Pakistan set up by the Government of Pakistan in 1952. Loans varying from Rs. 2,000 to Rs. 40,000 are given on mortgage of land and buildings to be constructed.

Government assistance in the shape of acquiring of land had been provided. Besides the above, there were several schemes underway for building low-cost houses in the urban areas and in the industrial estates at the instance of the government.

Philippines

Although appropriate legislations had already been enacted

*Now Bangladesh.

governing the organisation and operation of co-operative housing societies in the country, the concept of home acquisition and ownership through housing co-operatives was yet to find acceptance by the people.

Singapore

There were three housing co-operative societies in Singapore in November 1970. The first to be formed was the Co-operative Housing Society for government employees. This society, which started with 33 members, had a membership of 5,025. The Society had also purchased 1,500 dwelling units from private developers and had allotted them to its members.

The second co-operative housing society was registered in 1956 and it had a membership of 369 in November 1970. This society also caters to the government employees. The third is the Singapore National Co-operative Housing Society which confines its membership to the Malay community. The society was registered in 1964 and had a membership of 3,108 in November 1970. This society has loaned over M\$350,000 to its members for building houses.

Thailand

There was only one co-operative housing society in Thailand in November 1970. This society was formed by the Department of Land Co-operatives in 1966. It had obtained and distributed land amongst some of its members for building houses; it is now preparing a project for constructing houses.

TYPES OF HOUSING CO-OPERATIVES

The seminar categorised co-operative housing societies in the following five types.

Permanent Co-operative Housing Societies

These societies undertake all activities with regard to housing such as financing, acquiring and developing land, construction of houses, provision of common services and the maintenance of houses. There are two types of permanent societies:

(a) Co-ownership Co-operative Housing Societies

The housing estate is owned by the society and no individual

member can claim ownership of a particular house or flat. Every member is entitled to the use of a house or flat, which is allotted to him, as long as he is a member of the society and pays the stipulated monthly rent.

(b) Individual Ownership Co-operative Housing Societies

Here the ownership of the house is transferred to individual members after they have repaid the loans. The society continues to provide maintenance and other common services to the members. The society also continues to enrol new members and to provide houses for them.

Terminating Co-operative Housing Societies

On completion of the building project, the ownership of each allotted house and land is transferred to the respective members and the Terminating Co-operative Housing Society goes into liquidation. There are two types of societies under this category:

- (a) The societies which transfer the ownership of the land and house to the individual member immediately after the building project is over; then the societies go into self-liquidation. After the transfer takes place, each member pays his loan instalments direct to the lending organisation.
- (b) The societies which transfer ownership of the land and the building to the members only after the full loan obtained by the society has been repaid to the lending organisation. In the meantime, this society remains responsible for the collection of the loan instalments from the individual members and for the repayment of the loan to the lending organisation. These societies go into liquidation after the loans have been fully settled and the houses have been transferred to the members.

Housing Land Development Co-operative Societies

These societies are formed for the purpose of acquiring and developing land collectively. Once the land is acquired and developed, it is distributed among the members and the societies go into liquidation.

Multi-functional Co-operative Housing Societies

These societies undertake one or several activities connected with housing for their members. The constitution of these societies provides that they may continue indefinitely as permanent societies, or liquidate themselves after a specific objective is achieved. There was considerable discussion at the seminar whether it was necessary to define the above societies into a separate category. Some participants felt that it was not necessary to do so since the functions performed by these societies were covered by the societies described as "permanent" or "terminating" co-operative housing societies. Some others felt differently. In view of this, it was decided to group the above societies into a separate category which was understood to be a service co-operative for members in the field of housing.

Producers House Construction Co-operative Societies

Whereas the four types of societies described above are meant for consumers, the co-operative house construction societies are producers co-operatives. These societies have as their members, artisans and workers in the building trade, such as brick-layers, carpenters, painters and other skilled and unskilled labourers. These societies obtain funds from financial institutions and build houses for sale or for rental.

The seminar discussed the usefulness of the above types of co-operative housing societies and felt that all these types of societies were useful under different conditions. The seminar, however, emphasized that the permanent type of society should be encouraged as it had distinct advantages over the terminating type of societies. Not only can the former undertake house maintenance and other important services, but they are also able to continuously enrol new members and provide them with housing facilities. The seminar suggested that a strong housing movement can be developed on the basis of permanent societies which have on-going activities. The seminar reiterated the following recommendation of the ICA Regional Seminar on Co-operative Housing held in Malaysia in 1964: "To solve the problems of an ever-increasing population on a continuous basis, it is essential that the societies should continue their existence even after the construction of houses is completed on the land

originally purchased. Continuous activities are necessary if the principle of open membership is to be adhered to. By enabling new members to enter the society long before their housing needs are satisfied, the society will be compelled to go on with its activities, as there will always be members whose needs have to be attended to. Through continuous activities the experiences gained by the society will also benefit the future members. In this way, an ever-increasing efficiency in the production of cheap houses is ensured. The continuous activity will also enable the individual societies to grow in size and consequently become stronger and more influential. The large size will probably strengthen the society's bargaining power and facilitate the generation of necessary finance".²

SELF-HELP HOUSING IN RURAL AREAS

A major part of the population of the various countries in the Region lives in rural areas. In this context, the seminar emphasized the immense potential that self-help and aided self-help housing could play in the building of houses in the rural areas. This approach whereby the spare time of farm families and agricultural labourers could be utilized for construction of their own homes, can help in building cheaper houses. The seminar suggested that an organised co-operative effort on the above lines, to which Government should provide the needed assistance would make a significant contribution to improving rural housing in the Region.

ROLE OF NATIONAL ORGANISATIONS

It was noted that national organisations of housing co-operatives existed in India, Japan and Malaysia. The Seminar emphasized the need of establishing national organisations of housing co-operatives in other countries of the Region in order to co-ordinate the activities of the various housing co-operatives and to develop the housing movements in a sustained and vigorous manner. The seminar suggested that such national organisations should be properly supported by member societies and they should be developed into sufficiently powerful institutions so that

²*Report of the Regional Seminar on Co-operative Housing, Kuala Lumpur, Malaysia, 1964, pp. 21-22.*

they could discharge their functions effectively. The seminar suggested that the national organisations should undertake the following tasks.

PROMOTIONAL AND EDUCATIONAL WORK

The national organisation should provide necessary information to members as well as the general public regarding the importance of co-operative housing and should develop necessary public relations campaigns. The national organisation should provide necessary co-operative education to the members, board members and the employed personnel.

DEVELOPING PROPER RELATIONS WITH GOVERNMENT

The national organisation has a very important role to play in ensuring that the needs of the housing movement are placed before relevant government authorities and that the various types of government assistance required for development of co-operative housing are obtained. The problems of the housing co-operatives which require governmental action should also be taken up by the national organisation with the government authorities.

PROVISION OF TECHNICAL ASSISTANCE AND CENTRALISED SERVICES

The national organisation should develop model bye-laws for co-operative housing societies, should develop manuals on house building and should arrange for necessary architectural and engineering services for the member societies. The national organisation could also assist the housing societies in their negotiations for obtaining finance and could act as an under-writer. Provision of certain centralised services by employing architects, engineers and lawyers should also be provided by the national organisation.

PLANNING AND IMPLEMENTING CO-OPERATIVE HOUSING SCHEMES

The Seminar discussed various steps involved in planning and implementing co-operative housing schemes and endorsed the steps listed in the paper on "Planning and Implementation of a Co-operative Housing Scheme" submitted to the seminar by Mr. N.A. Kularajah.

COST SAVING FACTORS IN HOUSE CONSTRUCTION

The seminar discussed in detail the various measures which the housing co-operatives could adopt in bringing about reduction in costs of building houses. In this regard the seminar recommended the following:

- (i) Besides attending to administrative and organisational matters, the housing co-operatives should also adopt improved technology for reducing the building costs;
- (ii) The societies should acquire large areas of land and should plan their rational utilisation. Group Housing Schemes should be evolved to ensure economic use of land.
- (iii) For evolving efficient layout of housing projects and economic designs of dwellings, the services of competent architects, engineers, and builders should be utilised.
- (iv) Guidance to individual members who build their own homes should be provided to enable them to make proper selection and economic use of building materials.
- (v) Bulk procurement of building materials would help in obtaining materials at reasonable prices and in ensuring regular supplies.
- (vi) Technical guidance in the adoption of standard building specifications and techniques should be provided and encouragement for the adoption of new building techniques should be given.
- (vii) Provision of housing amenities and community facilities at economic costs should be given due attention by the housing societies.
- (viii) Housing co-operatives should provide a lead in adopting modern developments in the technology of housing production aimed at bringing about over-all economy in house building. These include adoption of pre-fabricated building techniques, standardisation and modular coordination in building, and better organisation of the building industry.
- (ix) Application of results of research and experimental construction should be undertaken systematically (as per the Development Cycle Scheme to achieve economy in building.)

- (x) Establishment of building centres by the developing countries would significantly contribute to the promotion of house building and rational use of resources. Housing co-operatives can help in the establishment of building centres, and, wherever such centres exist, the co-operatives should take full advantage of these centres.

GOVERNMENT ASSISTANCE TO HOUSING CO-OPERATIVES

In some advanced countries, the Co-operative Movement has made great contributions towards meeting the housing needs of ordinary citizens. The Co-operative Movement is capable of making similar contributions in the countries of the Region as well. However, the seminar felt that the growth of the Housing Co-operative Movement in the Region would depend not only on the mobilisation of members savings and enlisting their support on a self-help basis; but would also greatly depend on the assistance provided by Governments. The seminar recommended that the role to be played by the Housing Co-operatives in a National Housing Programme should be precisely defined by government and that the Co-operative Sector should be directly involved in the formulation of the Housing Programme and its implementation. It was suggested that the various agencies engaged in house building should be allotted specific targets.

Government assistance might be of the following categories:

(i) *Organisation and Management*

The extent of government assistance required for the above purpose would vary from country to country depending upon the stage of development of the Housing Movement. In some countries Co-operative Movement would, in the initial stages, need governmental assistance in the organisation of housing co-operatives and even in their management. Such assistance would involve the education of members, training of elected leaders, assistance in the planning of housing schemes and their execution. As these co-operatives acquire experience, their Boards of Management can assume progressively increased responsibility and become fully self-managing in course of time.

(ii) *Land Acquisition*

This subject is discussed in detail below.

(iii) Financial Assistance

The seminar endorsed the recommendations of the Report of the I.C.A. Commission on Co-operative Principles: "It can scarcely be contested that without the support of generous amounts of government finance, the development of co-operation in the newly-liberated countries will be painfully slow and uncertain." The seminar emphasized that this recommendation was of the greatest importance for the development of housing co-operatives whose growth in the Region has been rather slow. The seminar strongly recommended that substantial funds be made available by the government to the Co-operative Housing Movement, in the form of grants and loans at low rates of interest with sufficiently long repayment periods. The recommendation regarding provision of direct subsidies was made in order to ameliorate the conditions of those sections of the community who were not in a position to acquire housing accommodation with their own savings. Other forms of assistance recommended by the seminar included the following:

- (a) Sponsoring financing institutions,
- (b) Guaranteeing loans and debentures issued to the public by the co-operative financing institutions,
- (c) Developing schemes for House Mortgage Insurance,
- (d) Making contributions to the share capital of the apex co-operative housing societies, especially the financing institutions to strengthen their resources. Such contributions may also be made to share capital of primary housing co-operatives, wherever feasible.³

Incentives and Concessions

The following incentives may be given to housing co-operatives :

- (a) Concessions in the form of exemption or reduction of Municipal, betterment, property, and income taxes and registration fees, stamp duty etc., if these are not already granted.
- (b) Incentives and concession which are normally available

³ Please also refer to the section relating to "Finance".

to individuals for house-building, should be extended collectively to housing co-operatives as well.

The seminar further recommended that in the areas of the co-operative housing projects, the government and/or local authorities should provide social amenities and ancillary services such as roads, parks, water supply, drainage and electricity. It was noted that provision of such facilities was a normal practice in the Scandinavian countries.

The seminar recommended that special Co-operative Legislation might be enacted to facilitate the working of housing co-operatives and to provide them with necessary safeguards. Such legislation, among other things, should provide for special aid from Government including granting of various incentives and concessions mentioned above and summary procedures for recovering overdues.

Specialised Technical and Managerial Services

Usually co-operative housing societies in the Region are not in a position to employ competent technical and managerial personnel. Government should provide assistance in this regard.

Government should undertake research in the preparation of new building designs, new construction techniques, utilisation of better and cheaper building materials and other relevant questions in the field of housing and disseminate the results of such research to housing co-operatives. Government should also provide necessary financial assistance to those housing cooperatives which want to undertake research activities to solve local problems.

The seminar noted that in some countries, there was a practice of appointing government representatives on the Boards of Directors of co-operatives, wherein the government had invested substantial sums of money by way of purchase of shares or provision of loans. The seminar was of the opinion that in such cases, the government representatives should act in an advisory capacity.

The seminar emphasized that the development of building material industry was of vital importance in improving and rationalising house construction activities as building materials

constituted nearly two-thirds of the cost of a dwelling in some countries. The seminar recommended that the government should organise co-operatives and assist them in producing low-cost building materials. The government should also take steps to bring about standardisation of building materials.

LAND ACQUISITION

Cost of land constitutes a very important item in the total cost of a house. On account of the tremendous increase of population in urban areas coupled with speculation in land, land prices in urban areas, especially in metropolitan cities, have been spiralling upwards. In view of this, unless suitable measures are taken by the government to check the rise in land prices and to ensure that land is made available to the low and middle income groups at reasonable prices, co-operative housing cannot make much progress. The seminar, therefore, emphasized that it was essential for governments in the Region to formulate rational land policies for successfully tackling the housing problem.

It has been mentioned earlier in the report that the share of the co-operative housing movement in the national housing programme should be fixed and that specific target should be fixed for it. In this context, the seminar suggested that the Government should ensure that the required land was made available to the co-operative housing movement at reasonable prices in order to fulfill these targets. The seminar further recommended that preferential treatment should be given to the economically weaker sections of the community in allotment and distribution of land.

Co-operatives need protection for titles to land acquired by them. Such protection was available in regard to compulsorily acquired land under appropriate legislation. As regards lands acquired by Co-operatives through purchase, exchange or gifts relevant laws should be amended to provide for full protection of the titles to such lands. It was suggested that provisions of the Co-operative Law in India giving protection to land development banks could be studied in order to enact necessary legislation for the above purpose.

The seminar enumerated that the following sources would be

available to housing co-operatives for obtaining land:

- (a) Government lands,
- (b) Lands belonging to Improvement Trusts, Development Authorities, Municipal Boards, and Local Self-Government bodies,
- (c) Private land, and
- (d) Land vacated through slum-clearance schemes.

(a) *Government Lands*

In most of the developing countries, occupancy rights over large areas as distinct from eminent domain, are still held by Governments, or the provincial governments, in countries having a federal set-up. The seminar recommended that high priority should be given to co-operative and non-profit housing sector in the allotment of such land, in view of the contribution they would make to providing houses to middle and low income groups. The government should enact appropriate legislation and take other necessary action for the purpose.

(b) *Lands belonging to Improvement Trusts, etc.*

In some countries development of metropolitan cities, towns and villages has been entrusted, through legislation, to local authorities such as Improvement Trusts, Municipal Boards and other local Self-Government bodies. These agencies are responsible for the management of land in their respective areas. The seminar recommended that Government should ask these agencies to give high priority for allotment of land to housing co-operatives and non-profit housing societies.

(c) *Private Land*

It was noted that co-operatives in several countries of the Region obtained private urban fallow and agricultural land for housing schemes through purchase and sometimes by exchange or donations. In the case of some categories of land, it is necessary that Government permits changing their classifications if such land is to be used for house building. The seminar felt that there was a strong case for automatically allowing the change in classification of land purchased by housing

co-operatives, as was the prevailing practice in some States of India, Pakistan and Sweden.

It was pointed out that in some countries housing co-operatives which have developed their own land were required to pay conversion charges. These conversion charges, it was felt, should be payable only when the Government or the local authorities had borne the expenses of development. The seminar suggested that co-operatives should be exempted from payment of such levy and recommended that where the co-operatives were not in a position to develop the land, the Government should provide necessary administrative and financial assistance for developing lands purchased by co-operatives.

The seminar further recommended that, wherever necessary the Government should compulsorily acquire land situated in urban centres for making it available to housing co-operatives since they were not in a position to purchase land at prices which were usually exorbitant and beyond their capacity. In several countries, legal provisions existed for acquiring land for a public purpose, and housing co-operatives could be allotted land by the Governments under these provisions.

(d) Land Vacated through Slum-Clearance Scheme

Slums exist in several large cities and towns in the Region and Governments in various countries have undertaken schemes for slum-clearance. The seminar suggested that the services of the housing co-operatives should be utilized in rehabilitation of the slum-dwellers in other areas. The seminar also recommended that a portion of the land vacated by slum-dwellers should be made available to housing co-operatives.

BUDGETING IN A CO-OPERATIVE HOUSING SOCIETY

The seminar discussed the procedure involved in budgeting in a co-operative housing society and emphasized the importance of proper budgeting before embarking on housing projects. The budget must be very carefully drawn up so that it covers all aspects of the housing project. The Board of Management should draw up the budget taking into consideration, among others, the following main item:

Receipts: a. Subscriptions and deposits of members,

- (b) Loan repayments including interests,
- (c) Interest on deposits in banks and investments,
- (d) Rents of houses or flats which are properties of the society, and
- (e) Commissions and other miscellaneous income.

Expenditure:

- (a) Cost of land,
- (b) Development cost,
- (c) Technical and legal fees,
- (d) Administration expenses,
- (e) Construction cost,
- (f) Insurance premia, and
- (g) Variations in costs due to unforeseen circumstances.

Sufficient information with regard to the above items must be obtained from various sources such as the architects, valuers, and the engineers so that a realistic budget is prepared.

FINANCING

The successful implementation of a housing project by a co-operative would depend on the availability of sufficient funds. Careful planning and budgeting in this regard is, therefore, of great importance. The sources of funds for co-operative housing projects would be the following:

- (i) Funds raised from members,
- (ii) Loans from co-operative banks and insurance companies.
- (iii) Grants, loans and subsidies from government.
- (iv) Finance from the private sector, including the money market, and
- (v) International and inter-governmental aid.

Funds Raised from Members

The by-laws of every co-operative housing society require its members to contribute to the share capital. It would be a judicious step to fix the individual member's share fairly high in view of the need for a large volume of funds. Such share money could be collected in instalments.

The seminar also recommended that the members should be asked to contribute 15 to 20 per cent of the estimated cost of land and house to be allotted to a member. These payments could be made in the form of regular periodic deposits. Collection of such deposits would help the society in carrying out the preliminary work and would provide it with the necessary initial capital on the basis of which it could obtain loans from other sources.

Loans from Co-operative Banks and Insurance Companies

In some South-East Asian countries, co-operative thrift and credit societies and urban co-operative banks have been well-established and they have accumulated substantial amounts of reserves. Also substantial surplus funds remain with them after the credit needs of the members have been met. The Seminar suggested that, keeping in view the liquidity and safety requirements, these institutions, as they have done in Malaysia, should provide loans to housing co-operative societies. The Malaysian Co-operative Insurance Society has also played an important role in providing loans to co-operative housing societies.

The Seminar noted that in Japan agricultural co-operatives at the primary and secondary levels have financed housing co-operatives to the extent of \$84 billion which amounted to 10 per cent of their total surplus. In India, special state-level co-operative housing finance societies have been set up in several States with the objective of raising long-term funds and providing loans to co-operative housing societies. The loans made available by the government under various housing schemes are also often channelled through these societies. In some Western countries, building societies which accept deposits from individual members and institutions have contributed in large measure to financing construction or acquisition of houses by members. The seminar noted that such societies were not found in the Region and suggested their establishment.

Grants, Loans and Subsidies from Government and Semi-government or Nationalised Bodies

As discussed earlier, governments have an important responsibility in ensuring that housing needs of the people are

properly met. In view of this, the seminar recommended that government and semi-government agencies should give the needed assistance to co-operative housing movements whose objective was to meet the housing needs of the ordinary people such as industrial workers and low and middle income groups.

The seminar recommended that the governments should formulate schemes for providing housing finance to various sections of the population and wherever co-operative societies were formed, financial assistance under these schemes should be routed through housing co-operatives. It was mentioned that schemes of such nature operated in India and some other countries.

Government employees with permanent status and assured salaries in some countries are given salary advances for purchase of land and construction of houses. In many instances, such of government employees have organised co-operative housing societies to pool their resources and to build houses expeditiously. It was noted that in Japan and Malaysia, governments provide loans to employees from Provident and Pension funds. The seminar recommended that the Provident and Pension funds established under the aegis of the governments should provide loans for house-building on a co-operative basis, as such a policy would contribute to the fulfilment of their objectives. Also, in those countries where banking and insurance business has been nationalised, the governments should direct these institutions to provide finance for development of housing in general and co-operative housing in particular, by assigning definite percentages of their surplus funds for housing projects.

The Private Sector

The seminar felt that the private sector which employed a large number of workers should make adequate contribution to meeting the housing needs of the persons employed by it. Such contribution can be made by the private enterprise directly by constructing houses for the use of the employees or by paying house rent allowances. The former practice has not been generally followed excepting in countries where suitable legal and administrative provisions have been made. Some enlightened employers provide housing facilities for their workers.

The private commercial banks and insurance companies have not made any significant contribution in the matter of providing housing finance, as the return on these investments is usually not attractive for them.

The seminar noted that in some countries there were private financing institutions like Finance and Credit companies and suggested that when co-operative housing societies approached them for loans, they should make sure that the terms were not unfavourable.

International and Inter-Governmental Aid

The seminar noted with regret that in spite of the immensity and gravity of the housing problem, no international agency in the field of housing was so far established, and recommended the establishment of such an agency under the auspices of the United Nations. One of the most important functions of the agency would be to devise ways and means whereby housing activities in the developing countries could be financed, and technical assistance could be provided.

Some financial assistance, as in the case of Pakistan, was provided by developed countries. However, the extent of such assistance was meagre. The seminar emphasized the need for greater bilateral assistance for co-operative housing projects.

PILOT DEMONSTRATION PROGRAMME

Mr. E. Bueneman, representative of the International Co-operative Housing Development Association (ICHDA) had presented salient features of the Pilot Project on Co-operative Housing, started in Tanzania under the auspices of ICHDA. Mr. Bueneman had indicated that there were possibilities of starting a Pilot Demonstration Programme on similar lines in the Region of South-East Asia. The seminar welcomed Mr. Bueneman's proposal and adopted the following resolution, on the basis of the recommendations made by a Committee specially constituted by the seminar to consider the proposal regarding the Pilot Programme.

“While welcoming the signing of the Memorandum of Understanding between the United Nations and ICHDA on 28th October 1970, the seminar emphasized the urgent need for

Pilot Demonstration Programmes, to promote the development of Co-operative Housing in South and East Asia. The seminar recommends that the pilot demonstration programmes be carried out under the auspices of the ICA with assistance from ICHDA, UN. International, regional and national organisations, governments and national co-operative organisations in the following fields:

1. Formation of Home Savings and Loan Associations to attract savings for housing purposes;
2. Formation and/or strengthening of national federations for housing co-operative societies to provide financial, technical and managerial assistance to primary societies;
3. To bring about world-wide co-operation within co-operative movements; and
4. To disseminate knowledge and experience by way of technical know-how within the region.

The seminar further emphasized that the governments in the region be urged to assist co-operative housing movements in the following directions :

1. to give higher priority to the provision of housing through Co-operatives including making available land and building materials;
2. to provide direct finance for promotion of co-operative housing societies and to guarantee debentures issued by the Societies or loans provided for the societies from financial institutions.
3. to obtain international assistance for promoting Co-operative Housing Movement, where required.

CONCLUSION

In conclusion it may be stated that the Co-operative Housing Movement had made noteworthy progress in some areas in a few countries. However, in most countries of the Region the Co-operative Housing Movement was in its infancy. In the opinion of the seminar, it was necessary that high priority should be given to the development of co-operative housing in

the Region in view of the important contributions it could make in providing housing accommodation to the middle class and the industrial workers. A number of measures were necessary for achieving the objectives. These measures would include formation of a national policy by governments for developing housing and providing powerful support to the co-operative housing sector, development of strong national organisations of co-operative housing societies developing co-operative housing movement on a continuing basis and finding suitable ways and means for the important problems faced by the housing movements such as land acquisition, and securing needed finance both through development of savings schemes for members and obtaining long-term funds from financing agencies.

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