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LETTER OF TRANSMITTAL

Bangkok, 22 January 1951.

Sir,

The report of the Mission on Tropical Housing is submitted herewith. The Mission consisted of Jacob L. Crane, Assistant to the Administrator, United States Housing and Home Finance Agency, Chairman; Professor Jacobus P. Thijsse, University of Indonesia, Bandung, Java; Robert Gardner-Medwin, Chief Architect and Planning Officer, Department of Health for Scotland, Rapporteur; and Professor Antonio C. Kayanan, Chief Planner, National Urban Planning Commission of the Philippines, Secretary.

Between 21 November 1950 and 22 January 1951, the Mission visited and studied in four countries and two Non-Self-Governing Territories: India, Indonesia (visited by two members of the Mission), Pakistan, Thailand, the Federation of Malaya, and Singapore. Since Professor Kayanan is familiar with the experience in the Philippines, a chapter on that country has been added. The findings of the Mission are reinforced by the observations of the individual members of the Mission in other tropical and semi-tropical countries, both in Asia and elsewhere.

Under date of 17 November 1950, the Mission received a briefing on its task and the organization of its work. Special reference was made to low cost rural housing in the humid tropical areas; problems of resettlement; the gathering of experience which might be useful to other countries; advising governments of the countries visited; and the formulation of recommendations to further international co-operation in this field, particularly with respect to research and training, pilot projects, and promotion of the "aided self-help" principle. In writing the report, the

Mr. Trygve Lie,
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New York, N.Y.

Mission has tried to emphasize these aspects. But it has not been possible to confine the investigation and findings to these topics.

Study of the problems of resettlement, and particularly of the great migrations of refugees and others to the cities, inevitably leads to consideration of the urban and suburban phases of housing and town and country planning. Furthermore, in all of the discussions with the responsible officials, the urban problems appeared as urgent as the rural. In fact, it was necessary to press for attention to the villages as well as to the towns and cities.

Moreover, parts of India and of Pakistan are neither tropical nor humid; and, of course, this is true of other countries in Asia. Hence, the study is not confined to humid tropical conditions.

The Mission has interpreted the term "housing" broadly to include housing and general community development, or houses and home environment. Accordingly, the living arrangements within houses have been considered as well as the structures themselves. Furthermore, the Mission considered as fundamental to successful "housing" the problems of neighbourhoods, and of town and regional planning. Within this framework, attention was focused on the living conditions of the lower income families, because these were found to be the most urgent and most difficult concern of the governments in all the countries and Territories visited.

In each country, the Mission discussed the possibilities of specific measures of international co-operation, and was able to suggest, in several instances, ways in which further advice could be secured. These discussions led to the preliminary formulation of a number of requests for technical assistance from the United Nations and the Specialized Agencies.

Experience in other parts of the world leads to consideration of arrangements for international co-operation on a regional basis. The Mission has kept in mind the region of the Economic Commission for Asia and the Far East as one good possibility for integrated and effective work in the housing field on the part of international organizations.

We are very greatly indebted to the United Nations and Government officials consulted for their generous counsel and assistance. Throughout,

we have leaned heavily on people who know these countries far better than we do, and have tried to reflect their knowledge and understanding. Further, we have tried not to carry Western prejudices into the Asian scene; we ourselves could see many examples of the unhappy outcome which often results from such an imposition of ideas.

The time for preparation of the Mission prior to its tour was short, and its schedule, again owing to the limited time available, could not include all the places and areas which should have been visited. We recognize the dangers of generalization from so brief and so limited an exploration.

Nevertheless, our report outlines our convictions, and we hope that it will help toward the solution of a great human problem. It has been a privilege to make this survey and report; and each of us has learned a great deal from it.

In addition to transmitting copies of this report to Member Governments we earnestly recommend that copies also be sent to the principal individuals who worked with us in the countries and Territories visited.

Respectfully,

UNITED NATIONS TROPICAL HOUSING MISSION

Jacob L. Crane, Chairman

Jacobus P. Thijsse, Member

Robert Gardner-Medwin, Member and Rapporteur

Antonio C. Kayanan, Member and Secretary

PART ONE

CONCLUSIONS AND RECOMMENDATIONS

CHAPTER I
CONCLUSIONS

1. The Magnitude of the Problems.

Housing and community development have become major public issues in the countries and Territories visited by the Mission. The Governments - national, provincial and local - are deeply concerned. Official pronouncements on domestic issues in some Asian countries place the housing problem second only to the food problem.⁺ Health authorities⁺⁺ maintain that the ravages of tuberculosis cannot be controlled so long as the overcrowded conditions in rural and urban housing continue. A recent Asian meeting⁺⁺⁺ of representatives of national government, employers and labour decided that wage policy and workers' housing should constitute the two problems of top priority for a forthcoming Asian conference; another similar meeting⁺⁺⁺⁺ called for national programmes to bring housing conditions on plantations up to a greatly improved standard.

The importance of the housing problem is widely understood among Asian officials and among political and welfare leaders and workers.

The desire for improved housing as one element of better living standards is being expressed by urban workers now, and, as education and incomes increase among farmers, they also will demand better housing and community development. For example, rubber planters stated that they could compete for plantation labour only by improving their housing. Any evidence

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- + Paper prepared for the Mission by the Indian Planning Commission. Statement of the Indian Minister of Health.
 - ++ Dr. Mani, Regional Director of World Health Organization and Dr. Piyang, Director, Department of Health, Thailand.
 - +++ Asian Advisory Committee, International Labour Organisation, Bandung, December 1950.
 - ++++ Asian Committee on Plantations, International Labour Organisation, December 1950.

of apathy toward home improvement is due much more to ignorance, illness and fatigue than to lack of aspiration.

The Mission believes that the governments of these countries are no longer satisfied with policies which would merely continue or at best alleviate existing conditions, but are seeking to encourage the desire for improvement and to find ways to fulfil these desires. The conclusions and recommendations of the Mission are based on this premise;

Prevailing conditions in Asia create the greatest housing problems in the world. Existing housing conditions in the countries visited are similar to those in other regions where the average family income is relatively low; but the magnitude of the Asian housing problem is far greater than that of any other part of the world. The Mission was informed that more than 100,000,000 Asian families (perhaps as many as 150,000,000) at present live in crowded, insanitary, substandard quarters, urban or rural. A great many of these people are crowded in at the rate of two or more families per room. Ventilation and sanitation range from the worst to fairly satisfactory. In a large proportion of these quarters, there is no protection against vermin. Proper, even very simple, arrangements for the storage of food and the washing of dishes, clothes and person are almost unknown.

In many areas humans and animals are housed together within the same walls. In India, Pakistan and Malaya and elsewhere in Asia, millions of refugee families are living in makeshift shacks at a sub-human level.

A number of studies of minimum housing standards have been made by South and South-East Asian authorities. The consensus of these Asian recommendations appears to be that housing policies and programmes must achieve as soon as possible minimum standards ensuring at least two rooms per family, exclusive of verandah and kitchen, stipulating at the same time the adequate size of rooms, standards of sanitation, and arrangements for washing and food storage which, though varying with local circumstances, would constitute a marked improvement over prevailing conditions.

2. Scarcity of domestic resources

Most of the countries visited have only recently achieved independence, and all of the governments are eagerly seeking ways to improve the social and economic welfare of their people. But in most if not all of these countries, the problems of housing are overshadowed by others - both domestic and international - which are still more urgent. The organization within governments to deal with housing and community development is still in the formative stage. Generally the supply of experienced technicians is considered by the Asians to be wholly inadequate to formulate and execute large-scale - both private and public - programmes. There is a lack of administrators, economists, sociologists, engineers, architects, town and regional planners, experts in housing finance, research technicians, materials engineers, construction organization, superintendents and foremen, skilled workmen, and housing managers and maintenance workers.

Essential materials and equipment for housing and community development either are in short supply (in varying degree in different areas), or are considered too costly, or have to be imported with foreign exchange which cannot be spared for this purpose.

Traditions and prejudice, some of them not consciously recognized, obstruct or retard the wide use of new methods which many Asians consider to be appropriate and economical. For example, the objection to letting night air into the house militates against much needed ventilation. Many of these impeding traditions and prejudice are European in origin, e.g., the use of heavy masonry where light construction in the older South Asian tradition would be better.

The Mission found that the domestic economies of the countries visited cannot at present afford the cost of programmes aimed at achieving in the course of a few years the desired standards for all badly housed urban and rural families. Given the present cost per family of housing projects for the low and lower middle income groups and the great number of such families needing houses, the available financial sources for investment and for subsidy are inadequate even to provide enough new houses merely to keep

pace with the increase in population, with the result that no headway whatever is made for meeting the already existing needs.

The following, therefore, are the crucial aspects of the housing and community development problems of South and South-East Asia; organization, men (both professional and labour), materials and finance. This is not different from other regions of the world, except that in Asia the magnitude of the task is much greater.

3. World wide exchange of experience

The whole world is faced with the same dilemma with regard to housing and town and country planning and everywhere attempts are being made to find a solution. In the countries visited, hundreds of research projects, experiments and demonstrations have been completed or are under way and there are hundreds of larger projects in housing and community development, all aimed at achieving the desired higher standards.⁺

In other regions of the world, similar work is being carried out although the experiences there may be wider and more varied where some or all the basic elements of the problem are the same as in Asia. The exchange of experience between countries is of inestimable value to any agency working on popular housing, urban or rural. Much can be learned both from successes and failures. It may be that some ancient method used in one place will provide the solution to a problem elsewhere, or in other cases, a completely new, highly scientific solution will have to be introduced. At present however such experience from other countries is frequently unavailable. Even within countries arrangements are far from complete for drawing on current experience. Among the Asian countries the exchange of experience is still meagre. And as between the countries of Asia and the other countries and regions of the world the exchange is only fragmentary. If all the available experience were drawn upon systematically for the solution of each type of problem in Asia, this would help greatly toward avoiding mistakes and achieving success. Some of the Mission's most important recommendations are aimed at extracting all relevant experience, the world over, for application in each country.

Several of these are described in Part Two of this report.

Arrangements for such an international exchange of information and experience constitute one of the appropriate functions for international organizations.⁺

The experience of one country may be useful in another country in any and every phase of housing and community development: methods of administrative organization; methods of formulating policy and programme; methods of regional and town planning; methods of design and construction; methods of organizing the materials industries; methods of aided self-help and co-operative undertakings; methods of maintenance and management; and methods of finance, which of course reflect and influence all other phases.

4. No Magic Formula

The Mission frequently encountered the belief that there exists somewhere a single method of building houses, which would once and for all solve the housing problem. Most often it is believed that somewhere a single expert or agency has developed a house of such high standards and at such low cost that no further search would be needed. No such magic housing formula exists in the world today.

Furthermore if all present knowledge in the housing field were systematically examined and applied, it would still not be possible at present for the countries visited to bring housing and community development up to the desired high standards all at once. The available domestic resources of men, materials and finance are insufficient. In other words, at this stage, even while all useful experience is being drawn together, and while new experience is developing, still some degree of compromise with desirable standards seems inevitable.

The manner in which such compromises are made is of utmost importance; a later section of this chapter contains suggestions on the subject. Meanwhile, it has to be realized that no magic formula exists, and that the problems require continuous, painstaking effort along many lines to produce the best current results and ultimate solutions.

⁺ Specific suggestions are made in Chapter II.

5. Housing and General Economic Progress

As economic activity and real purchasing power increase for low income families, better living conditions are made possible, including better housing and community development. In the long run this is the only sound basis for such improvement.

But it is a fallacy to assume that better housing follows economic development automatically. Asia provides many illustrations of this fallacy. While some industries, such as the steel industry at Jamshedpur in India, have provided satisfactory housing for their employees, this was not an automatic corollary of industrial development but rather the result of a well designed policy. In contrast to these relatively few projects, however, most industrial developments in Asia have resulted in awful slum areas such as those found in Calcutta, Bombay, Lucknow, Cawnpore, Madras and many others cities. The industrial or commercial development may be based on the technological standards of 1950, but housing and community development more often than not reflect the technical standards of 1850. The correction of these great blunders is a slow and terribly costly process. The governments have to see to it that economic development is accompanied by housing and community development at the best feasible standards. This has to be done as a part of overall policy and programme and has to apply to every substantial new economic development, be it in industry, agriculture, mining or power.

Furthermore, economic development as such may make housing conditions worse, unless it is accompanied by social development such as in health, social security and employment security.

It is also a fallacy to assume that housing conditions are automatically as good as any present level of family income permits. The task of government and of social organizations at any time is to use more effectively the presently available resources for better living, including better housing and community development. There are immense possibilities for im-

proving housing in South and South East Asia within present resources.

Finally, housing and community development constitute a major economic activity in themselves. "When the nation is busy, everybody is busy", as an old adage goes. The building materials industry offers prospects of vast development in these countries, and careful preparation and stimulation of that industry, as well as of the construction industry seem fully justified.

6. Village Housing

Approximately 85 per cent of the population of the countries visited, lives in little villages and rural districts. Hence, quantitatively, the home environment and the community environment of the villages constitute the major phase of the housing problem for the governments, and also for this report. It is often assumed that slums and housing shortage exist only in the cities; that the village family is content with what it has; that living in the country is healthy per se; and that, in any event, nothing much can be done to improve rural housing and community development.

All of these assumptions are fallacious. By and large a great many villages in South and South East Asia are slums.*

In those areas almost the whole rural population lives in a grossly substandard unhealthy environment. These conditions vary widely from place to place and there are of course great differences, for example, between the mud huts of the Punjab and the relatively open mountain villages of West Java. Most of the housing fails to meet the standards which the Governments desire for their people.

The village family is very often crowded into too little space. For millions of the population sleeping accommodations consist of a tiny common room shared by men, women and children. Tuberculosis, pneumonia, and cholera cannot be controlled. Sleep is often impossible. The morality question arises. Ventilation and light are inadequate; floors are dirty or muddy; roofs are low, dirty and inflammable. Facilities for preserving and preparing food are usually painfully inadequate; cooking is a dark, smoky operation; and fuel for cooking may be difficult to get or it is wasteful of valuable resources. Gardens for vegetables and fruits are impossible. Arrangements for washing persons and utensils are at best difficult. Places to relax and to visit either are very poor or are completely lacking. The lack of sanitation is almost always dangerous to health. The water supply is inconvenient and frequently contaminated. Rodents and insects infest the village hut. Sometimes mud huts erode from the action of rain, or wash away altogether. Repairs take too much time and effort. The

* See Part Two of this report.

dwellings are crowded together in a gloomy jumble, with no sense of space or of organization. No place is provided for recreation or community life.

Measured by present Asian standards, there are many villages where all of these deficiencies prevail, and it is probably true that none of the villages is completely adequate.

Village improvement seems at first glance to be relatively simple, as compared with urban housing. But, it is in fact, so wrapped up with the rural economy as a whole, and so encumbered with tradition, prejudice, ignorance and lethargy, resulting from generations of living at a low standard, that many students of village life in Asia believe improvement can be accomplished only as part of a general rise in education, health and economic status. This point of view is understandable, and the Mission feels bound to accept it as a general principle. But the pilot schemes which were visited demonstrate that village housing and community development can be improved within the present economy, if only an effort is made simultaneously with other programmes, as an integral part of a plan to improve agriculture, health and education.

It is proposed, along with the other phases: (a) that villagers be offered education in home and village improvement and training in self-help housing, for example, in making brick instead of mud walls; (b) that public agencies develop the most feasible system of making or improving houses and home and community facilities, for example, self-help methods such as are practicable, requiring only such aid as the government can afford; (c) that public agencies develop and carry out programmes for making available the necessary materials (for example, in one rural district in India it was found that the villagers will use brick instead of mud, but that ten instead of only the four present brick kilns were required); (d) that governments provide trained personnel, competent and eager to give the simple technical assistance which is required; (e) and that the local government establish appropriate regulations, on an elementary scale at first, for the spacing and the building and rebuilding of huts or houses. As these enterprises proceed and mature, it is believed that aided self-help will gradually produce villages far better to live in and far healthier than at present. Further,

the money cost can be kept in scale with the resources of the villagers and the governments.

This is a huge task, requiring the greatest good will, ingenuity and patience. The education and training in itself requires extensive organization. It would seem desirable that various new materials or methods of building be used as examples in each district, so that the villagers themselves can make their own choice depending on cost and other factors. There are a great many ingenious devices, both old and new, which can be crystallized into practicable form and offered for such a programme.

None of these solutions, however, will take place automatically. This work must be planned and programmed and carried forward by governments, with the participation of co-operative and other local groups, all as part of a national policy, even though it begins with a single local demonstration.

In some areas, for example, in West Java, such a village improvement programme could probably be initiated on the basis of the present rural economy, without waiting for any great changes in agricultural methods.

The Mission visited one rural reconstruction project near Etawah in the State of Uttar Pradesh: * - It is called Agragami, which means "forerunner" and it may show the way for many others. At Agragami many theories are being tested; it has already been proven that the villagers do want and will make progressive improvement in their farming and in their villages, provided the improvements are to their advantage and within their means.

Projects of similar nature are urged on all of the national and provincial governments. Further, the Mission believes that projects of rural improvement sponsored by international agencies such as FAO, WHO, UNESCO, should always include housing and community development.

* See Chapter III, para. 6.

7. The Cities

The most conspicuous and acute housing problems in Asia exist in the great cities, where war destruction or sudden migration have reduced the supply and increased the need.* The towns, being smaller, can tackle their problems more easily and can save themselves, through the application of normal town planning measures, from the acute congestion and slum conditions of the cities.

It has to be realized that urban housing and community development are integral parts of urban and regional planning. Not only are national policies and programmes required, but each urban region has to be studied in terms of its physical structure as a whole. This point will be developed later in the section on National and Regional Planning.**

The basic consideration in housing and planning is the land, its ownership, its development, use, and cost. Towns and cities have grown more and more congested, with increase of their populations, because land values have risen to the point where only dense occupancy is economical. But for this reason, it would be feasible to build at lower densities with correspondingly better standards.

The Mission believes it is vital that the countries and Territories visited, along with many others, should face the fundamental problems of urban land policy. Various formulae are in process of trial in different countries: the British Town and Country Planning Act, 1947, under which the development rights in all land are vested in the nation; the Soviet method of public ownership of urban land; the Dutch system of municipal planning and development of urban land; the Swedish system of publicly owned urban land reserves; and many others. The first step in the formulation of a housing policy and programme for the countries under discussion, should be a systematic investigation and evaluation of urban land policies, in Asia and elsewhere, prior to the formulation of possible modifications or fundamental changes in their urban land systems. Public ownership of urban land may finally be found desirable in the public interest, by whatever means seem practical and just.

* See Chapter III, para. 1, and Chapter IV, para. 1.

** See para. 9 of this Chapter.

In the big cities, the countries and Territories visited by the Mission seem to have committed the same serious errors that were made in the West during the Industrial Revolution. Cities have been allowed to grow without control, regardless of elementary human needs, until they have become practically unmanageable. The cost of operating and maintaining them is far greater than these countries, or any other country, can afford.

Under the present conditions, only heroic measures can deal with these swollen cities to make them livable and economic.

The dilemma of the big cities was discussed more often than any other major topic. The Mission believes that a planned policy of decentralization (in the form of detached suburban communities or new townships), based on new urban land policies, is the only solution to this problem.

In the case of the large cities, the system of developing planned new "satellite" towns, each with their own industries, is one of the most promising. The idea of the independent new town has already taken hold in some of the countries of Asia, and there are notable examples under way in India, Pakistan, Indonesia and the Philippines.* The experience of these cities is rich in lessons for other cities in the area - even more so than the experience of cities in the Western countries.

The task is, of course, stupendous, for a policy of decentralization involves not only new housing on new land, but also the dispersion of industries and the reorganization of transport, business centres and community facilities. The initial money cost is great, but it will be recognized that building in detached suburbs and satellite townships costs less than the construction of concrete and masonry apartment buildings (in Bombay, for example, only one-third as much**); that public agencies can develop and rent plots of land for people to build on for themselves, utilizing aided self-help methods; that families can start with small (perhaps very small), but expandable houses at much less initial cost to themselves; that services can be much less costly; and, most important of all, that the social economy of the urban area can be greatly improved from the point of view of health, productivity, operation charges, and human satisfaction.

* See Part TWO of this report.

** See Chapter III, para.8.

8. Central Agencies for Housing and Planning

When housing first becomes an issue of public policy the question arises as to whether the responsibility for whatever action is required should be placed on the national or the local level. Generally, the problem of urban slums is initially regarded as a local and, in fact, usually as a personal matter. Accordingly, local governments have usually been the first to take some interest in housing matters. Where municipal powers are delegated by States or Provinces, the States, rather than the Central Government, are considered to be the source of authority under which the municipalities act to control or stimulate or build for purposes of housing.

This sequence seems to have prevailed in some of the countries visited by the Mission. There has been a strong inclination to leave all housing matters to State and local government. Obviously, there is virtue in this "close to the scene" responsibility; and it is considered that the greatest feasible degree of local responsibility should be continued.

But in many countries it has been discovered that housing and community development involve aspects of policy and action which can be managed only by the national government. These include economic planning; social policy for health, welfare, and social security; regional planning; research and training; the development of the building materials and construction industries; international relations; and, notably, finance.

For this reason, housing has been recognized in the organization of national governments in many countries all over the world, including several in Asia.

Because housing is related to so many other phases of governmental activity, there is often uncertainty and hesitation as to how to organize a programme on a national basis to include such aspects as finance; health; economic affairs; social affairs; public works; industry; agriculture, etc.

Nevertheless, the principle that housing and community development require a national policy and programme has been firmly established. In national governments, a ministry or a department is required to formulate a national policy and programme in this field, in liaison with, and assisted by, several other ministries and departments. The Mission found, however, that in most of the countries visited satisfactory arrangements of this nature still need

to be worked out and put into effect.

9. National and Regional Planning

Some form of national social and economic planning is in process in each of the countries visited. These are important as a background for housing. With regard to location, housing programmes must reflect basic decisions on the distribution of industry, agriculture, and mining; new settlement and resettlement; and concentration or dispersion of cities.

Likewise, the wider social and economic elements of housing policy should be related to the estimates of national income and its distribution (geographically as well as among various groups of the population).

Further, regional planning in the sense of town and country planning for land uses, circulation, transportation, power distribution, water supply, and drainage has been started in many of the urban regions, and is, of course, fundamental to housing and community development.

The physical interpretation of this national policy - the actual use and development of land on a regional basis - is commonly called regional planning. It is in the organization for regional planning that the countries of South and South-East Asia are relatively weak.

The idea of regional planning appears to be fully understood, but its potentialities have not by any means been fully explored, because men with training and experience in this field are rare.

The Mission believes that the United Nations could be of great service by giving technical assistance in regional planning - for instance, by providing professional experts for long or short periods to initiate regional surveys, advise on regional development plans and assist in creating professional training facilities.

Regional planning, as practised today, takes two forms. There is metropolitan regional planning, as exemplified in the published regional plans for Amsterdam and its surroundings or in the plan for the Greater Glasgow industrial region in Scotland; and there is geographic regional planning along the lines of the famous Tennessee Valley Authority in the

United States, where the geographic unit is the vast watershed of the Tennessee River - an area about the size of England.

The first principle of metropolitan regional planning is that the city cannot be intelligently planned as a unit complete in itself but only as part of the whole metropolitan area which includes the "agricultural hinterland". This hinterland normally supplies the city with food and basic resources for its industries. The city in turn serves the hinterland with the products of its industries. If this principle of the interdependence of urban and rural activity were harnessed in the large cities, and regions of South and South-East Asia, it would be possible to achieve two vitally important and complementary objectives: first, a check to the ever-threatening influx of people to the cities - by moving some of the industries to suitable points in the surrounding countryside; and second, the development of new townships as subsidiary market and supply centres - as part of a policy of agricultural, economic and social improvement.

One application of this principle is described in the chapter on India.*

* Chapter III, para. 6.

The idea of geographic regional planning on the Tennessee Valley scale seems to offer equally splendid opportunities in South and South-East Asia - particularly in India and Pakistan where ambitious projects for electric power, land reclamation and forestry are being prepared. It will be remembered that the Tennessee Valley Authority project, although concerned with the building of dams for flood control, was conceived primarily as an opportunity for large-scale social and economic development. The dams were designed not only to control the floods which had devastated vast tracts of land, but also to produce electric power and improve river navigation. Forests were planted to form a part of the flood control measures, as well as to prevent erosion of land and to increase the timber supply. Industrial estates and new towns followed the supply of electric power. Modern methods of farming were introduced on the reclaimed lands; new villages and farmsteads were built; training centres were started, social services organized, recreational parks planned around and in the newly created centres.

This pioneer plan for a geographic region has been the inspiration for at least one project in Pakistan - the Thal reclamation project in the Punjab;* and for another in India - the Damodar Valley hydro-electric project in Bihar, where a full study of the social structure of the region is contemplated.

Exchange of experience and of techniques and technicians in national and regional planning would be valuable. Metropolitan regional planning is a recognized principle in the new town and country planning act in the United Kingdom, where regional planning staffs and "physical planning committees" have been set up to formulate regional policies on which the detailed development plans prepared by local authorities will be based. Geographic regional planning has been tried with conspicuous success in the United States and the USSR.

The social and economic relationship between housing and community planning, between community planning and city planning, and between city

* See Chapter IV, para. 6.

planning and regional planning, is something which it is necessary to grasp and act upon in countries the world over, and most urgently in South and South-East Asia. In the opinion of the Mission, this is a major principle in international co-operation if there are to be progressive solutions to the housing of the masses on the colossal scale which human needs demand.

10. Need for Consistent Policies and Programmes

The mission found that a great many projects of housing and community development undertaken in the countries visited clearly showed the lack of well considered policies and programmes. With the greatest good will and most conscientious effort, agencies of government (national, provincial and local) have undertaken to build houses and communities without considering in advance what the outcome would be. For example, it is often assumed that a proposed housing project will be available to families of low income. But, upon completion of the project, it is found that the rents or sale prices are too high, or the location is wrong, or the requirement for subsidy too great, or the design inappropriate for the families who will occupy the project. Most important, it is found that the particular formula used is not suitable for repetition elsewhere as part of a continuing policy and programme. The "trial and error" method has resulted in a too great degree of error. This sequence is true of a great proportion of government housing sponsored during the past twenty or thirty years, and has caused much waste, confusion and discouragement.

The Mission therefore urges that before houses or communities on a large scale are designed and constructed, a consistent policy and programme be designed. The lack of it, the fact that nowhere has the problem been viewed as a whole, is the most important weakness in the present approach of these countries.

A number of countries in other parts of the world have evolved and used techniques for the formulation of national policies and programmes for housing and community development. These techniques of programming are badly needed in South and South-East Asia. The kind of policy and programme ultimately to be adopted are, of course, completely at the discretion of the particular country.

These techniques include appraisal of housing needs (in various categories) as well as of domestic and international resources available to meet the needs; identification of key problems, and the formulation of feasible, practicable measures aimed to do the best possible towards the realization of objectives formulated.

The importance of consistent policies and programmes for housing and community development cannot be overemphasized. While each of these countries is urged to formulate such programmes, ^{the} United Nations is prepared to publish studies of the programming techniques. Meanwhile, experienced technicians should assist in applying ^{these} techniques so that each country's own policy and programme can emerge.

11. Housing Finance

Everywhere the Mission was told that the great impediment is lack of money: "We know what and where and how to build. All we need is the money." Statements to this extent were frequently made by spokesmen of governmental and non-governmental agencies at all levels, - national, provincial and local. The Mission recommends that the authorization of funds for housing and community development should be considered in all fiscal policy and in all budgetary arrangements of each Government.

At the same time, the Mission feels that up till now relatively little attention has been given to alternative methods of housing finance, and to studies for determining what financing formulae would be most effective, constitute the least burden on the monetary structure, and produce the best housing programmes. Large-scale, long-term housing programmes inevitably absorb substantial proportions of the national income; they have a great bearing on the development of industry and other economic activity; and they influence prices, costs of living, and in fact the whole fiscal structure.

The agencies dealing with housing, in collaboration with economic and fiscal agencies, should study and work out formulae for housing finance which are feasible and acceptable, and are not conducive to inflation. To avoid undue pressure on the price of materials, for example, programmes for the production of materials sometimes have to accompany housing programmes.

There are many different financing methods and combinations of methods, and it is considered that each country requires expert study of these alternatives. They include a number of different types of financing from private savings, and various methods of public finance, each of which should be examined to determine which one, or which combination is best suited to the country's economy. The United Nations and other international organizations are about to undertake the surveying of housing finance throughout the world and these studies should be valuable to the Asian countries. But each country should explore its own possibilities and select the most appropriate formulae; in most cases this has still to be done.

Housing finance for families of low income may be divided into two phases: funds for investment to produce homes, and funds for such public subsidy as is deemed wise and necessary.

In the investment phase, an overall social-economic determination should properly be made concerning the proportion of national investment that can be devoted to housing and its corollaries without prejudicing other needed forms of investment and without causing inflationary effects within the general economy of the country. A balance should be struck between the investment and annual costs required for a housing programme, and the housing standards to be met. The necessity to reduce both first cost and annual cost is crucial, and many factors have to be taken into account. To cite only one example, the Mission was informed that the Bombay State Housing Board* has found that outlying row-house development of equal or better accommodation requires only about one-third the investment in land and houses as compared with multi-family, masonry flat buildings on costly land in the built-up areas.

Funds for housing investment may be drawn from four sources. First, the families themselves may have some savings for this purpose. There are many arrangements now in different countries for stimulating such savings and for making them more secure and more available for use in low income housing: (1) social security reserves, building and loan associations, co-operatives, and deposit insurance; (2) private savings of the middle and higher income groups, held individually or placed in savings institutions of various types,

* See Chapter III, para. 8.

such as insurance trusts, banks, and building and loan associations; again, there are a number of formulae in use in other countries for stimulating and drawing on such savings for housing investment at relatively low interest and for relatively long periods, including those named above, as well as various mortgage-insurance formulae; (3) governments appropriate funds or borrow and lend for investment in low income housing, usually at relatively low interest and long amortization. In some countries this type of arrangement has become the most important in the field of low-cost housing; and (4), certain international financing aids are now in operation or under consideration for the future, which may be of great assistance.

If governmental or employers subsidies are considered unavoidable and wise, then studies must be made to determine how much subsidy can be afforded; and the programme has to be adjusted accordingly in its annual cost. Technological advance is gradually cutting down initial and annual cost. Reduction in interest rates and extension of amortization periods may greatly reduce annual costs and subsidy requirements. Perhaps most important of all, the application of the principle of aided self-help, well organized and patiently conducted, can reduce initial cost and annual cost far below those of usual construction and rental methods.

In connexion with slum clearance in cities and towns, some recent financing methods include public subsidy only to help cover the deficit between the cost of acquiring and clearing the land and the price at which it is again put into use in conformity with a plan. Determination of methods of finance is an integral and crucial part of the process of policy formulation and programming, as outlined in the preceding section. Programming for housing includes finance methods not only for the several phases of housing, but also for land development, supply of materials, and the services required for housing.

Obviously, the selection of the most likely financing arrangements must be based on knowledge of the utmost that can be done in the way of reducing costs. Particularly in housing to be maintained by public agencies, it should be recognized much more widely than at present that the annual cost per dwelling is often more important than the first cost. By annual cost is meant the cost of interest and amortization as well as of maintenance, repairs and replacements. If a public subsidy is required, the permanent, low-maintenance house

is usually less costly per year, and requires less subsidy per year, than the temporary house of the same accommodation.

Certain possibilities of international finance for housing are currently available, and others are in prospect. During recent years, it has often been considered that loans or grants from one country to another for direct use in the domestic economy, for example, to pay costs of domestic materials and labour, tend to be inflationary and are to be avoided for that reason. However, there are now in operation several programmes for international loans and for grants for purposes of procuring imported commodities. These arrangements have been used successfully a few times in connexion with housing programmes. Each of the countries can appropriately explore these possibilities to determine whether their housing problem would justify use of loans or grants from these international sources.

The Mission believes there is opportunity to extend the arrangements for bilateral credit, that is, credit from one to another country, in connexion with supplies of such materials as cement, timber, steel, hardware, and sanitaryware.

The feasibility of international credit, or even grants, for use in helping to carry the domestic requirements for investment in housing and community development has been discussed for some time. A number of experienced students in this field believe that international finance of this type may prove necessary and wise, and they are urging serious consideration of such arrangements. The study of housing finance by Asian countries could very well include these possibilities; and all study of housing finance by international bodies should seriously examine them. One method proposed for consideration would involve guarantees by an international fund of loans originating in one country, or in one group of countries, to be used for domestic housing credit in other countries which need such loans and would be prepared to handle them.

It has become clear, with regard to the countries visited, as elsewhere, that to push national housing programmes faster and farther than traditional methods of housing finance permit, creates extremely complicated problems, requiring the wisest and most expert exploration. It would be presumptuous for the Mission to suggest what precise formulae to use; but it does ^{not} seem inappropriate to urge such exploration, as a part of policy and programme formulation.

2. Co-operatives

The Mission found a wide variety of co-operative organizations working on one or another phase of housing and community development. Some of them have been reported in available publications^{*/} Projects like Faridabad ^{**/} near Delhi involve a whole complex of apparently very successful co-operative arrangements.

The co-operative might be said to be half-way between governmental enterprise, on the one hand, and competitive private enterprise on the other, and experience seems to show its very great potentialities for housing and community development in these countries. Co-operative organizations are closer and more responsive to the immediate problem than government can ordinarily be; and they draw out the aspirations and stimulate participation of the participating families in a way that is lacking when people occupy houses built by strangers and rented or sold to them.

Co-operatives have been used in these countries for finance, for producing materials, for management and operation, for land acquisition and land development, and for direct construction. Co-operatives may be used for resolving some of the most difficult problems of villages, where money as such is very scarce, but where the interest and skills of the villagers may be drawn into village improvement of many kinds in a sort of elementary specialization and exchange of labour. It is considered that, in the formulation of policies and programmes for housing and community development, and in order to use the limited resource of money to the best advantage, the cooperative appears to be a very useful method.

13. Aided Self-Help Housing

Many economies can be effected through technological progress. But, in the search to make available money resources go just as far as possible, it must be remembered that most families in Asia still live in houses which, at the time they were built, did not require any outlay of money. Self-help

^{*/} ILO, Cooperatives in Asia, 1950.

^{**/} See Chapter III, para. 6.

housing is the oldest and most widely applied of all methods of producing shelter. From observation in these countries and elsewhere, it is believed that aided self-help can do more to reduce money cost and to achieve higher standards than any other combination of finance and technology.

Aided self-help is a term now applied to the method whereby a family or a group of families improve or build houses or communities largely with their own labour, in the ancient tradition, but with the assistance of government for things which they cannot provide themselves.*/

The desired standards may require that a piped water supply be installed; or that tile be substituted for thatch on the roof; or that a stack for burning bricks be provided; or, in the case of suburban aided self-help, that a sewerage system be installed. These facilities may require skills and money beyond the resources of the families. The Government helps to provide the techniques, skills, materials and equipment, and perhaps the money needed to meet the degree of improvement considered necessary. If "self-help" is successfully organized, the amount of "aid" per family may cost the government only a fraction of the subsidy required for other methods, perhaps only one tenth as much.

The aided self-help principle has been applied in various forms to the improvement or building of homes at many places throughout the world. It is applicable to rural and village programmes of housing and community development as well as to the suburban projects and satellite towns. The Mission saw several examples of its successful application.**/ For dispersion of the overgrown cities it may be very useful. It is closely allied with the cooperative principle and usually involves some form of co-operative activity.

*/ See Jacob L. Crane, "Huts and Houses in the Tropics"; "The Governments and the Homes of the People"; "Programmes in Aid of Family Housebuilding-Aided Self-Help Housing"; and "Aided Self-Help in Puerto Rico". See also "Survey of Problems of Low Cost Rural Housing in Tropical Areas"; Document ST/SOA/2, 17 November 1950.

**/ See Chapter III, para. 6 and Chapter IV, para. 5.

Since the occupant is owner or joint owner, aided self-help housing can use less expensive and less permanent materials, at least in part. It is well adapted to the use of the "nuclear" house, - which is at first deliberately substandard in size and number of rooms but can be expanded later by the occupant and his neighbours in a progressive aided self-help programme.

Where standardized parts or elements can be provided through governmental or co-operative arrangements, this is an excellent form of aid for self-help. When (as is almost always to be expected) the desired standards cannot be fully attained at once, decisions have to be made as to which elements must be given priority: plot size, security of tenure, interior space and number of rooms, water supply, vermin proofing, quality of walls, floor and roof, etc. One type of aided self-help provides additional aid for those families which put in more effort and proceed faster with the improvement.

It is true that sometimes the families do not have enough spare time to participate very actively in aided self-help housing. It should be pointed out, however, that other factors such as seasonal spare time, holiday time, time saved by introduction of labour saving devices like seed drills or made available by shorter working hours in industry, as well as the introduction of new methods requiring less time for the erection of a house, favour the introduction of aided self-help methods.

Aided self-help represents a stage in the transition of pure self-help, which cannot do very well now, to houses provided wholly by a building industry, which still costs too much for most families.

Aided self-help on a large scale is very difficult, as it requires great organizing ability, the most skillful human engineering, the greatest ingenuity, and much patience. Nevertheless, it opens greater opportunities for providing more and better houses and communities than any other method, and at far less money cost, Its rewards in terms of greater fulfilment of the spirit of co-operation and achievements are very great.

14. Research

An enormous amount of research is needed and justified : there is no single element of housing and community development which could not profit by more research if properly conducted. An investment of thousands of dollars could result in savings of tens of millions. Research is needed into a variety of materials and construction methods, as well as into the economic and social aspects of housing. Floor, walls, roof, ventilation, light, noise, sanitation, cooking, cooling, first costs, annual costs, public services, all require further investigation in order to determine what are the best and most economical methods. For example: the foam-concrete panels now being produced in the Housing Factory at Delhi^{*/} may find wide use for roofs in villages; in addition to their original use for prefabricated houses. A method of preserving common bamboo against damage by insects and rotting might make important savings possible in the annual cost of millions of houses. All of the countries and Territories visited need the best types of "nuclear house" or "expansible house", on which very little research and experimentation has been done. In addition, research is useful in helping to break down those prejudices and traditions (some of them European in origin) which are serious obstacles to the achievement of better housing with the available resources.

The Mission found a great amount of research, experimentation and small-scale demonstration going on in South and South-East Asia. In India^{**/} alone there are a dozen research establishments and literally hundreds of experiments and trial-and-error demonstrations devoted wholly or in some part to problems of housing and community development. Some of them are doing outstanding work. In Indonesia,^{***/} several laboratories and field trials are developing new and very promising materials and methods.

In the light of this situation, several steps are suggested prior to expansion of any of these current research operations.

*/ See Chapter III, para. 9.

**/ See Chapter III, para. 9

***/ See Chapter VII, para. 8.

In the first place, in a part of the formulation of national policies and programmes, the present research work in each country should be examined, evaluated and co-ordinated, and a preliminary national research programme developed. The national research programmes in this region should then be co-ordinated in order to avoid duplication and gaps. This approach is similar to that developed for Europe under the auspices of the Economic Commission for Europe. This regional co-ordinated research programme should then be compared with the programmes for Europe and the one for Latin America developed by the Organization of American States, as well as with other regional research programmes, so that each country can benefit most by the work of the others. This is an undertaking of some magnitude, but it appears manageable, and will result in great economy of money, manpower, time and effort; it will also go a long way towards making the world's knowledge available for use in each country. A discussion of the organization arrangements for this work in the region of the Economic Commission for Asia and the Far East may be found in Chapter II of this report.

Second, the research in these countries needs to be directed more realistically toward problems of popular housing and community development. Certain criteria, e.g., cost limitations, need to be laid down in advance, so that the research can be focused more effectively. For example, a successful research into thermal characteristics may produce cheaper walls and ceilings; at the same time the extent of the savings (all important in the case of low income housing) should be determined. Research programmes should be directed towards specific goals. Further, in developing research programmes, a distinction should be made between fundamental or "scientific" research into the properties of materials, for example, and research into the application of materials and methods for the actual production of housing as part of community development.

Third, the governments should explore the possibilities of drawing on one or another of the programmes of international financial assistance for purposes of procuring research technicians, laboratory equipment and other items essential to research and experimentation.

Fourth, there is great need for more systematic dissemination of the findings of research, experimentation and demonstration.

Fifth, since there is a need for more research technicians of various types, training within the countries, overseas training, and exchange of such technicians among countries should be considered as an indispensable requirement .

[It may be mentioned that the Mission was warned, several times, that agencies in these countries are no longer willing to pay, in advance of demonstration, for a commercial item of material or equipment which a foreign seller says will perform in such and such a manner. They prefer to have the demonstration of such material or equipment made at the cost of the seller before they place orders.]

15. What Demonstration Projects Must Demonstrate.

The Mission found a great many demonstration projects on a larger scale under way in the countries visited. A number of them are described briefly in the chapters which follow.* All of them are very valuable, from the point of view of the experience gained, for what proved to be successful, as well as for what proved to be unsuccessful. Each country should assemble systematically the results of these large-scale demonstration projects.

By and large, however, these undertakings suffer from one serious defect. Many of them set out to demonstrate some method, material or principle as such, without having any relation to a pre-defined specific limit of cost or rent or subsidy. As a result, after they are completed, the use of a material or a method has been proven, but does not illustrate the solution of a defined housing problem. for the reason that the problem itself was not clearly defined prior to the demonstration.

Accordingly, the Mission feels that two things should be done before a further programme of demonstration projects is launched. First, the current experience should be systematically examined, recorded and made available for wide distribution. Second, each large-scale demonstration project henceforth should be formulated and developed in the light of specific objectives of cost, livability and further application. That is, each such project should be conceived in such a way that it demonstrates methods which can be used over and over on a wide scale in the actual housing of the families for whom it is intended. Demonstrations toward a defined, large objective are recommended.

*/ See Chapter III, paragraph 6 and Chapter IV, paragraph 5.

16. Training and Education

Housing and community development have become such great problems, and large-scale programmes are developing so rapidly throughout the world, that there is a widespread shortage of trained people to handle the work. The shortage is more acute in the countries and Territories visited by the Mission than elsewhere. There is need for more administrators, financial experts, legal experts, engineers, architects, planners, economists, sociologists, research technicians, management people, and "housers" (specialists in general problems of housing and community development) to work on the formulation and execution of national and local programmes, and to maintain the increasingly important international relations in this field. By some this problem is considered of paramount importance.

There are two equally important categories of training for the housing and planning field which need to be developed in all the countries visited by the Mission: 1. university and technical college training, e.g., for civil engineering, architecture, surveying, and town and country planning; and 2. trade and vocational training for foremen and craftsmen. There is also a gap in social training, but on this the Mission does not feel fully qualified to express its opinion.

With regard to training at the university level, the most urgent need is for trained architects and planners. There is a very serious shortage of architects, particularly those trained in modern building science and design technique; and there is an even more serious shortage of planners experienced in modern methods of urban and regional planning. The well-rounded technical team (financial administrator, town planner, architect, specialist engineers, housing manager, etc.) commonly engaged in housing in European and American countries, is very rare in South and South-East Asia. Often vast schemes, of fundamental importance for the economic and social future of a city, are left largely to a civil engineer who alone, and in addition to his other engineering responsibilities, cannot possibly be expected to solve adequately all the complex social, economic and technical aspects of planning and housing.

The Mission has seen major schemes and large new townships where good progress was being made but where it seemed that materials for roads and buildings were being wasted on an alarming scale, and serious mistakes

in traffic circulation and community organization were being made, for lack of a suitably experienced and qualified staff.

Site organization, use of modern building equipment and machine tools, as well as instruction in traditional building methods and workshop training, are all important factors in reducing housing costs, which is the reason why equal emphasis is given to trade and vocational training. The Mission believes that the United Nations could give valuable technical assistance by providing trade and vocational training instructors and by helping to obtain appropriate equipment for training purposes.

One important long-term need, so far as housing and planning are concerned, is for graduate training of architects and post-graduate training of planners in each of the countries, with plenty of facilities for part-time and evening classes. The Mission believes arrangements should also be made for post-graduate courses abroad. It is suggested that these might be confined to technicians who already have a basic qualification (not necessarily in the technological fields, but in such subjects as sociology or economic geography) and who are already engaged on housing or town and country planning in Government service. The Mission believes it would be justifiable to award a number of fellowships each year specifically focused on the housing field.

It will be many years, however, before university courses or fellowships yield results. In the meantime it is recommended that the United Nations* should take immediate steps to organize "staff college" (or extension) courses of two to three months duration, in which experts in specialized fields from abroad could link up with experts from the country concerned, giving concentrated courses of lectures, field work and studio work to students and, more particularly, to men and women already engaged in housing or town and country planning work.

The Mission considers this to be one of the most effective ways in which foreigners could help to stimulate new developments and new ideas. The Mission believes that in special cases there may be a possibility of United Nations assistance in the founding of a Chair of Architecture and Housing, or of Town and Country Planning, at a Government university, and

* See Chapter II.

for engaging a professor from abroad for a three- to five-year pioneer stage. This would apply in cases where there is no one with sufficient experience in the country concerned. (There was an admirable precedent for this in India when the pioneer planner, Patrick Geddes, became the first Professor of Sociology at Bombay University from 1915 to 1921.)

The Mission also believes that it would be worth while to investigate the possibilities of exchange professorships or senior lectureships for periods of a year to three years. For example, an Indian professor of oriental languages or philosophy might be exchanged with a professor of Regional Planning from another country. Exchange fellowships for post-graduate students might also be arranged on this basis. The United Nations is recommended to make international arrangements to facilitate such an exchange.

In the countries visited, opinion varied about the wisdom of importing foreigners to help with training. The point of view was sometimes expressed that it would be better to entrust the training and teaching to their own people rather than to depend on foreigners who would take too long to adapt themselves. On the other hand, it was more often stated that help from anywhere would be welcome.

In view of all this the Mission is of the opinion that arrangements for international cooperation with regard to training needs more attention and more systematic execution.

Special mention should be made of the field of housing management and "tenant education". In countries where public agencies are most active in housing, and particularly in housing developments owned and managed by public bodies, a new profession of housing management has emerged. Housing managers are called upon to participate in the formulation and design of projects, and to assume direct responsibility for the establishment of rents and regulations, the selection of tenants, the maintenance and operation of properties, the collection of rents and the book-keeping, as well as the extremely important work of educating the tenant families in their new mode of life.

Housing management in this sense is new in the countries and

Territories visited, except perhaps for projects accommodating employees of governmental agencies. The training and education of housing managers, and of specialists in the several phases of housing management, is as important in the long run as any of the other aspects of training and education.

The United Nations documentation services have an important relation to the training problem.

The agencies and institutions in these countries need to be informed more adequately about these services, and the services themselves should be carried on more widely and systematically.

Public education in the problems of and the possibilities for housing and community development has scarcely begun in these countries. There is much that can be done in the primary and secondary schools, in the colleges and universities, in adult education and co-operative groups, in extension services to rural people, and through citizen organizations. Democracies being responsive to popular understanding and conviction in such matters as housing, popular education and organization underlie the policies and programmes for popular housing.

37. Asia to Develop Its Own Policies and Methods

In the course of this study the Mission has come to feel even more strongly than before that Western ideas should not be transplanted without change to Asia. Rather, the Asian people and the Asian Governments must decide which Western methods can be adapted and fitted into the evolving life of their countries.

However, viewed in the perspective of this study and on the basis of the composite previous experience of its members, the Mission would like to venture one broad generalization.

All of the suggestions made in this report could fail to be effective in the absence of a spirit of community and brotherhood to give them life

and meaning. People do not live by food, water, fuel and shelter alone. Nor can the many achieve an adequate measure of these material things except in an organized society whose purpose is to apply in practical affairs the fundamental principle of mutual self-help which is the only tenable basis of democracy, freedom and human dignity.

For anyone to go to Asia with the preconceived idea of promoting a system of "free competition" probably means making a wrong start. What these countries seem to be seeking is a system of free co-operation. To this end, recommendations for co-operative and community organization to tackle housing and community development are particularly relevant.

The less the resources available for improving popular living conditions, the more important it is to help people make the most efficient use of the knowledge and resources available. This requires policies and programmes of housing and community development even though such programmes might provide nothing more than technically trained personnel to help individuals and communities make the best use of their own resources to meet their basic needs through local but technically-aided self-help.

For governments to develop and carry out practical policies and programmes to help people and communities improve their basic conditions of life is to demonstrate these principles in action; it is to bring together for the best human purposes the resources of agriculture and industry and the splendend know-how and-why that the world has developed out of generations of trial and error and scientific research. Through the art of co-operative planning for better homes and communities such programmes can help to promote better standards of living for the people.

CHAPTER II

RECOMMENDATIONS FOR INTERNATIONAL ACTION FOR HOUSING AND COMMUNITY DEVELOPMENT

1. The Elements of International Co-operation

Wide experience has clearly demonstrated that organized international action can help each government in tackling the problems of housing and community development.

a. In the current rapid evolution of new policies and methods all over the world, government officials and technicians, as well as private individuals, are very eager to be kept in touch with the experience of other countries. Until recently this could be done, in general, only if each agency or person, or each government, undertook on its own account to find out the experience of other countries. This is a very cumbersome and expensive process, and very few countries can afford the necessary arrangements. At best the results are somewhat desultory, fragmentary and unsatisfactory; at worst (and this is true of most countries) the experience of other countries is scarcely available at all.

Organized international co-operation has now begun to service the agencies and people who want to draw on regional and worldwide experience. This is being accomplished, and can be achieved more quickly through several types of systematic arrangements of international organizations:

- (i) Periodicals, such as the United Nations bulletin Housing and Town and Country Planning;
- (ii) Special studies and publications, such as those of the United Nations, describing the agencies engaged in this field concerned with legislation, finance, urban land policies, etc.;
- (iii) Occasional publications such as those of the regional organs of United Nations (Economic Commission for Asia and the Far East, Economic Commission for Europe, Economic Commission for Latin America), the specialized agencies (such as International Labour Organisation, Food and Agriculture Organization, World Health Organization), the Organization of American States, and many others.

- (iv) The making and distribution of exhibits and films, e.g., by the United Nations and United Nations Educational, Scientific and Cultural Organization;
- (v) The establishment of centres of documentation and of systematic exchange of abstracts and references, now well started at United Nations headquarters, in conjunction with the International Council for Building Documentation through its office in Paris.
- (vi) The holding of international meetings and seminars, world-wide in the case of the International Federation for Housing and Town Planning, regional in the case of the United Nations Social Welfare Seminars, and the seminars arranged under the auspices of the Organization of American States, as well as the very successful meetings and conferences on housing arranged or sponsored by the Economic Commission for Europe.
- (vii) Finally, and perhaps most important, the increasing volume of expert services or technical assistance in general provided through international organizations to countries requesting it.

b. There is an enormous amount of research and experimentation going on all over the world. Through the work of the Economic Commission for Europe, it has become clear that international organizations can organize both to stimulate and to co-ordinate research programmes and the dissemination of the findings. This type of co-operation results in great economy, convenience, and far more adequate and effective research work for all the participating countries. Thus far it appears that this type of international co-operation can be best arranged on a regional basis, e.g., for Europe, Asia, Latin America and the Middle East.

c. It has further been suggested and urged from many quarters that international organizations might well help initiate, as well as sponsor and assist in the development of large-scale housing demonstration projects or pilot projects. Undoubtedly there is a great opportunity for this phase of international co-operation, but it has not yet materialized in South and South East Asia to any great extent. Demonstration projects for

this area are discussed briefly in Chapter I* and in a later section of this chapter.**

d. There is a painful shortage of trained, experienced personnel to help implement the programmes of housing and community development which are taking form in many countries. Very often, good training should include education or work in some other country. International organizations have begun to provide this form of assistance.

e. International problems of supply of materials and equipment are extremely difficult to solve. International organizations, notably the Economic Commission for Europe, have done some valuable work in gathering and publishing estimates of requirements and availabilities, helping to resolve problems of allocation, and stimulating production of materials in short supply. Again, it is economical as well as more effective to have this work done through international agencies, probably on a regional basis, rather than for each country to try to do it alone.

f. International co-operation in housing has begun to touch the important element of housing finance. Aspects of this phase of the housing problem are discussed in Chapter I*** as well as later in this chapter.****

It is thus possible to identify six principal phases of international

* See Chapter I, para. 14 and 15.

** See para. 8 of this chapter.

*** See Chapter I, para. 11

**** See para. 6 of this chapter.

co-operation through international organizations in the field of housing and community development.

2. International Organizations and Agencies

No less than seven intergovernmental organizations are interested in housing and community development: United Nations headquarters, and its organ in Europe, the Economic Commission for Europe*; the International Labour Organisation; the World Health Organization; the United Nations Food and Agriculture Organization; the International Bank for Reconstruction and Development; and the United Nations Educational, Scientific and Cultural Organization. The International Council for Building Documentation is worldwide in its interests but not strictly intergovernmental, although it was initially sponsored by the ECE. Among the regional organizations mention should be made of the Organization of American States, the Caribbean Commission and the South Pacific Commission, all actively interested in co-operation and action for housing. The so-called Colombo Plan is intergovernmental within the Commonwealth and its membership has manifested a deep interest in housing.

There are also a number of non-governmental international organizations interested and active in this phase of international co-operation; the International Federation for Housing and Town Planning; the International Congresses of Modern Architecture (CIAM); the International Union of Architects; the International Engineering Congress; the International Cooperative Union; at least two international trade union organizations; and many others to a lesser degree.

* The participation of the ECAGE is discussed in para. 7 and 11 of this chapter.

Further, several countries have initiated bilateral programmes of international co-operation which include assistance with respect to housing.

Finally, there are many private arrangements which transcend national boundaries and which deal with housing and community development in one way or another. The Mission found a number of such arrangements in effect in South and South East Asia. National, provincial or municipal governments employ foreign experts. Trade unions carry on promotional and semi-technical work and non-profit, private institutions provide technicians.

3. Interest of the Countries Visited in International Action

The Mission found general and widespread interest both in helping and in using the facilities and services of international organizations in connection with housing and community development. Without exception all persons with whom the Mission came in contact showed keen interest in all six of the elements of international co-operation outlined above; though the degree of interest varied, with regard to each of the elements mentioned there was a unanimous desire to invoke the sixth - international aid in housing finance.

The remark must be made however that in the countries visited there appears to be a certain amount of confusion with regard to the concrete possibilities of international co-operation. In part this must be due to the fact that, as far as the international organizations are concerned, the opportunities for their effective co-operation have as yet not been sufficiently developed.

4. Recommendations for International Co-operation

At the risk of repetition, but for emphasis: All of the governments in these countries, and, in fact, governments everywhere, are faced with the problems of making the available resources go farther toward better standards of housing and community development. These problems are by no means confined to the technological phases but include organization and administration, policy formulation and programming, finance, legislation, materials supply, training and education, research and experimentation, and control and management. In this period when nearly all countries

are working on more or less the same problems, and when new methods are evolving rapidly in many places, and despite the fact that housing is still largely considered as a domestic national matter, there are several useful types of international co-operation which can help each and all countries. Each country must, of course, work out its own solutions. But international co-operation may make a great difference in finding successful methods much sooner than would otherwise be possible. Based on the Mission's observations, the following paragraphs of this chapter outline some recommendations toward making international co-operation more useful and effective in this field in the region of South and South-East Asia.

5. More Emphasis on Asia

Throughout the whole structure of international co-operation, more emphasis should be placed on the vast Asian problems. By means of international channels of information, the rest of the world can be made much more aware of the difficulties and the potentialities of housing and community development in this region. For example, it would be valuable if the United Nations bulletin Housing and Town and Country Planning could carry more material about Asian countries, and could be more widely and consistently distributed in that region.

The Mission further is of the opinion that the Integrated Programme of the United Nations and the Specialized Agencies should be recast, both to give greater recognition to Asia and to clarify inter-agency division of interest and responsibility. For example, in arranging fellowships and seminars, and in making studies of village improvement and of requirements for production of materials, the Asian conditions justify special consideration and emphasis. The role of the Specialized Agencies should be intensified and clarified, in order to give housing a larger and more effective place in their several programmes and projects. More representation from Asia in boards and committees and in staff organization seems to be clearly indicated. The International Federation for Housing and Town Planning might well arrange to hold a Congress in Asia as soon as practicable.

Arrangements for the international collection and distribution of documentation should be more effectively directed toward the needs of the

* Integrated programme in the field of Housing and Town and Country Planning; report of the Secretary-General prepared in consultation with the interested Specialized Agencies; Document E/1343, 8 June 1949.

Asian countries. This suggestion is directed towards United Nations headquarters and Economic Commission for Asia and the Far East, and also toward the International Council for Building Documentation in Paris.

In the several international programmes of technical assistance, the countries themselves should seek the opportunity to send trainees and professionals abroad to study methods of housing and community development; and the international agencies should recognize the importance of this phase to the Asian countries.

It is important to remark that there is great need and opportunity to include housing and community development in many international projects which are directed primarily toward other objectives. This is true of agricultural projects, irrigation and power projects, industrial and transportation projects, health and sanitation projects, and educational projects and particularly of projects of fundamental education. In the case of the World Health Organization, Food and Agricultural Organization and United Nations Educational, Scientific and Cultural Organization, the Mission recommends that education and demonstration in housing and village improvement should be included in each project of rural education or rural reconstruction. The countries themselves will also have to watch for such opportunities in order to promote the inclusion of housing in such projects.

6. Special Studies

Several of the studies which are included in the work programmes* of the United Nations and the Specialized Agencies are particularly urgent in Asian countries. First in order of importance is the study and publication of techniques of national programming for housing and community development. Almost equally urgent are the worldwide studies of methods of housing finance, and the study and reporting of urban land policies in all countries which have defined policies. Each of the other studies now proposed in the work programmes of the international agencies are needed by the countries in South and South-East Asia.

The Mission suggests that a special study** which was prepared by United Nations for the Caribbean Commission be expanded and completed. Even in preliminary form this summary demonstrates the great usefulness a complete handbook on tropical housing would have. The Mission's visits and discussions in this region also made clear the great need for it in this part of the world.

7. Regional Arrangements for Research and Experimentation

In Chapter I, several suggestions are made

concerning the organization of research and the dissemination and use of research findings. From the point of view of arrangements for international co-operation, the following additional comment and recommendations are made. The facilities of international organization should be used to co-ordinate and exchange research. For the first phase, it is suggested that the Economic Commission for Asia and the Far East should initiate a programme for compiling, comparing, and co-ordinating, the research work in Asia and the Far East, and also for the systematic exchange of the results of research and experimentation.

* For the United Nations programme in the fields of Housing and Town and Country Planning, see Official Records of the Economic and Social Council, Eleventh Session, Supplement No. 3, Annex IV; Document E/1678, 8 May 1950.

** Survey of problems of low cost rural housing in tropical areas; Document ST/SQA/2, 17 November 1950.

This can be done in a number of ways, depending on the amount of funds and size of staff that can be devoted to it, and on the contribution in man-power that each country can supply to the joint project. It should be done under the general guidance of United Nations headquarters, which would, at the same time, take into account the co-ordination of research in the field of housing and planning in Europe and Latin America.

As soon as it can be evolved, more formal organization for the co-ordination of housing and planning research in the Economic Commission for Asia and the Far East region, is emphatically recommended. The creation of a regional council and a regional centre for research and training should be considered and encouraged. But it seems premature for the Mission to recommend any single arrangement as the best one. This should be worked out as the international discussions develop under the auspices of the United Nations and the affiliated organs.

8. Large-scale Demonstration Projects

In each of the countries and territories visited there are many demonstration projects, rural and urban, contractor-built and self-help, old materials and methods and new. Some conclusions about them are summarized briefly in Chapter I.*

Before any additional demonstration projects are initiated, it is suggested that several other fundamental steps should be taken.*

The usefulness of demonstration projects on a scale large enough to test theories in actual practice is unquestioned. But demonstration has developed far beyond organization and administration, policy and programme, criteria for control, co-ordination and dissemination of research, education and training, determination of financial limitations, and adequate knowledge of the outcome of new methods in other countries and even in other parts of the same country.

The Mission found that many who are keenly interested in housing problems still believe that a single expert or group of experts can now

* See Chapter I, para. 13 and 15.

put on a demonstration in the nature of a large or small project which will show conclusively the way to solve all the problems. As has already been pointed out, this is a fallacy;* no total solutions are now known for the problems of low income housing and community development, even in most of the highly developed countries. What can and should be done, is to take the next steps toward finding the best that can be done now in raising standards within presently available resources. The Mission does not wish to minimize the immediate usefulness of some of the present demonstrations, both rural and urban, particularly some of the agricultural and rural rehabilitation programmes. However, as the other phases develop, additional large-scale demonstrations for housing per se will be more useful. Tentative proposals were made to the Mission for such projects. They can be internationally sponsored, and they can draw together the most expert talent available in the world. This is to be anticipated in a few years, perhaps in only a year or two, and plans should be made accordingly. Meanwhile, the Governments of these countries and the interested international organizations are offered several suggestions in this report all of them aimed, among other things, at making demonstration projects more practicable and more valuable; large-scale demonstrations need central national organization and policies, both to plan them wisely and to utilize the results. All of the countries visited have "demonstrations"; none has central organization as yet.

9. Foreign Exports

There are several reasons why foreign experts sometimes do not do well in these countries: the language handicap; the difficulty a foreigner has in understanding traditions and attitudes, limitations and potentialities, especially in a short period; and the complications created by wives and families.

* See Chapter I, para. 4.

Nevertheless, it is believed that foreign experts can be useful. First and most important, the right foreigner can help a great deal in developing or adapting a technique for the formulation of policy and programmes. This type of work requires the combined approach of sociologist, economist and engineer. In listing the categories of foreign experts for which there may be need, and for which there is greater or less demand on the part of agencies of these governments, the priority or importance varies according to the different situations, but the policy, programme expert is considered first and most important in all cases.

- (a) Expert on formulation of policy and programme.
- (b) Expert on organization and conduct of research.
- (c) Expert on housing finance.
- (d) Expert on design of housing.
- (e) Expert on town and regional planning.
- (f) Expert on professional education. *
- (g) Expert on organization, administration and legislation.
- (h) Expert on materials and materials production.
- (i) Expert on vocational training.

Other types of experts might be added, and there are various ways of grouping them. Sometimes one expert can cover more than one phase; it is even possible, that in some cases one expert could handle all phases.

Each of the governments concerned should consider what type of foreign expert in housing it may need, and make the necessary arrangements to combine this request with those for experts in other fields in which it may want assistance. There is also some choice as to which channel is best for the particular request, but ^{the}United Nations welcomes requests for experts in the field of housing and planning. Specific possibilities were discussed informally in India, Pakistan, Indonesia and Thailand.

* See Chapter I, para. 16.

The following considerations may be kept in mind. A central point is needed in each government for the clearing of such requests. Consultation for brief periods is sometimes very useful, but, in general, experts should be recruited for periods of two years or more. It is very difficult to find enough first-rate people to fill such requests, and several attempts in different combinations may have to be made. According to the present arrangements, the United Nations usually undertakes to pay the salary of an expert and his travel to and from the country, and to supply a list of names. But the requesting government should always itself select the expert or experts it wants, in accordance with its purposes and desires. The request itself may indicate a particular person desired for a certain period; or it may indicate the country or countries from which it is hoped to recruit the expert. Sometimes teams of experts from more than one country may be most useful. Foreign experts should always be used to help train nationals and should always proceed to make themselves not needed any longer than required to help develop and hand over the work.

Within these stipulations, expert services can be an important part of international co-operation in this field.

10. International Credit

The question of domestic and international finance for housing is briefly discussed, and certain suggestions are made, in Chapter I.* With regard to international co-operation, in this particular field the following recommendations are made.

As a part of policy and programme making, each government may determine what materials and equipment and machinery have to be imported, and then decide whether to include these items in applications for loans or grants from one of the international finance organizations. This arrangement has thus far not been used in many cases in connection with housing and community development, and other types of projects have taken precedence over housing. Yet for certain types of imported equipment, these international loans and grants may be important as a means of indirectly stimulating housing. Consideration should particularly be given to projects for the domestic production of materials which require imported machinery and imported operating technicians. For example, stacks for brick kilns or tile making; machines for producing panels from local materials; equipment for manufacturing sanitary ware; and electrical and water supply machinery and fixtures which will reimburse the investment through the rates charged for the service, are typical of the items for which governments might find a place in their applications for international finance under present operations. Every detail has to be carefully worked out as part of well-conceived programmes.

Further, each country may consider whether and how investment may in future be drawn from outside sources for direct use in their programmes of housing and community development. This is a new field of exploration and the possibilities are still in the realm of conjecture; nevertheless, the examination of the precise way in which this might be done is recommended to each government.

Finally, the studies of housing finance, which are planned by the United Nations and its organs and by Specialized Agencies such as the International Labour Organisation, should place special emphasis on problems in the Asian countries; and, at the same time, should include examination of possible formulae for international investment directly in housing and community development. Some students of these problems believe

* See Chapter I, para. 11.

that ultimately this will be the most effective form of international co-operation for housing.

11. Co-ordination

Agencies of the governments in South and South-East Asia are not yet fully cognizant of the arrangements that can be drawn upon for international assistance in housing and community development.

Throughout this report it has been recommended that each of these countries and Territories needs to centre the formulation of housing policy and programme in an agency and staff assigned to this task on a national scale. The same staff or some part of it could very well be made responsible for the functional aspects of the international relations of that government in this field. These relationships can be developed for purposes of international documentation, securing and distributing reports and periodicals, international meetings and seminars, sending nationals abroad, bringing in foreign experts, dove-tailing and utilizing research on an international basis, and promoting present and future arrangements for international finance. Through centralization of international relations along the lines suggested, the countries in South and South East Asia could arrive at a more systematic exchange of information and experience between themselves as well as with the other parts of the world while at the same time relations with international organizations could be developed and clarified to good effect.

Earlier in this chapter the large number of international organizations dealing directly or indirectly with housing and community development was discussed. Among these organizations there is danger of duplication of work and their programmes need co-ordination. In addition to the earlier recommendation⁺ that the Integrated Programme of United Nations and the Specialized Agencies be recast, it is suggested that the Economic Commission for Asia and the Far East could perform an indispensable role by acting as a clearing house for international co-operation in housing and community development in this region.

It is suggested that the first steps to be considered by ECAFE are, first, the establishment of a special Committee for Housing and Community Development, and second the establishment of a staff in the ECAFE Secretariat to perform the necessary work. The ECAFE could properly make recommendations to the appropriate Commissions and to the Economic and Social Council,

+ See para. 5 of this Chapter.

and could proceed within its own terms of reference, in so far as it finds this added function to be appropriate and feasible.

The proposed special Committee could be made up of responsible housing specialists from the countries in the region, and would advise and be responsible to ECAFE. It could meet perhaps once or twice a year to discuss and clarify all phases of international co-operation in this field.

Furthermore, it could initiate studies and programmes for joint action, for example in research, and with regard to estimating supply and requirements of housing materials; With some modifications, the organization and the work of the Special Committee would follow the pattern of the very useful Housing Subcommittee of the Economic Commission for Europe.

The ECAFE/^{staff} could service the Committee, preparing for the meetings and carrying out the mandates of the Committee after approval by ECAFE; it could also help greatly in such matters as liaison with the housing specialists in the governments of the member countries and with the United Nations Secretariat and the Secretariats of the Specialized Agencies, with a view to ensuring more co-ordinated and effective international co-operation. Finally, it could serve as channel between this region and the other regions and their organizations in this field.

United Nations technical assistance relationships would be simplified by placing UN technical assistance officers in the region and in the individual countries, who would work closely with ECAFE and with the central housing staff and other branches of each government.

If the recommendations given are put into effect, it is expected that the effectiveness of international co-operation will be greatly increased.

Housing and community development take a long time to be planned and carried through. International co-operation in this field requires patience and foresight, but its immediate and potential values are very great. In fact, the Mission believes that the opportunities for international action in this region are so great that the international organizations could very well increase their efforts in this field tenfold.

PART TWO
COUNTRIES AND TERRITORIES VISITED

CHAPTER III

INDIA

1. Refugee Problems

There is a housing problem which overshadows all others in India and Pakistan: the finding of homes and occupations for many millions of refugees. This problem has strained the resources of both countries to the utmost, and it is still far from solved.

Some six million people are estimated to have crossed the border from Pakistan to India, some seven million have migrated from India to West and East Pakistan. Delhi's population has doubled from 800,000 at Partition (1947) to 1,600,000 today, refugees accounting for half a million. In the east, the figures for Calcutta are even more alarming: two and a half million in 1945; nearly five million today, of which some two million are refugees who have entered the city since 1947. In West Pakistan, Karachi has quadrupled in ten years: in 1940 the population was 300,000; it is 1,200,000 today.

It is not difficult to imagine the chaos resulting from the doubling, sometimes more than doubling, of the population of an already overcrowded, congested city, all in the course of three years. Every available open space within the shelter of the city limits became a camp of improvised shacks, and in no time the camp became an insanitary slum. Almost overnight an alley of ramshackle bazaars would appear within the thoroughfare of an existing street. It was some encouragement that during the Mission's stay in Delhi one of these alleys of bazaars as quickly vanished overnight; for one of the tasks of the rehabilitation authorities is to prepare new, orderly parking lots for the innumerable refugee merchants. Although the plight of the refugees, from the date of independence, has prevented progress in slum clearance and normal housing improvement, it has provided an impetus for bold experiments on an unprecedented scale. In the social, technical and educational fields it has summoned the ingenuity and imagination of the best brains; and there is hope that out of the experience of the first makeshift schemes - sometimes disheartening but often astonishingly successful - will come the inspiration for more far-reaching community planning. The unfortunate feature is that the

number of technicians necessary for this task is hopelessly inadequate.

One of the greatest refugee difficulties is that although the larger number came from the villages, nearly all sought safety and livelihood in already overcrowded cities and towns; and if, in this report, more space is devoted to the problems of the big cities than to those of the small villages, it is because the problems of the former, sometimes intensified to an alarming degree by the refugee situation, are more complicated and difficult, demanding more complex and drastic action.

Even in south and central India, which were not affected in the same degree by the refugee problem, the cities are growing at an alarming rate at the expense of the countryside. The people who now flock from the country to the city in such numbers are not political refugees but refugees from the fear of poverty or famine.

Consequently, there is the clearest reason for parallel remedies in town and country - and particularly for agricultural development, village improvement and community planning within the magnetic fields of big cities.

Chapters I and II contain a discussion of the problem of the villages in the region as a whole, with emphasis on the value of United Nations assistance in building up organizations for aided self-help in village improvement. This is particularly important in India, where 85 per cent of the population live in small villages, and where the greater proportion of these suffer extremes of poverty. By comparison, the villagers in the Malayan kampongs are favourably situated.*

The advantages of regional planning have also been outlined, and here again expert staffs are urgently needed. There is considerable evidence to show that central organization for large-scale regional planning, combined with local organization for aided self-help, can benefit large areas in both India and Pakistan, and can contribute at the same time to social betterment and - the first necessity - increased food production. Examples of this type of project will be given later in this Chapter.

A considerable amount of documentary evidence has been collected in India and Pakistan, but in order to keep the Report within reasonable limits, the Mission has adopted a policy of recording only such evidence

* See Chapter V, paragraph 7.

as may be considered relevant to technical assistance to these countries by the United Nations, and of describing conditions and projects likely to have some significance for those who are studying similar problems under similar conditions.

2. Organization for Housing and Planning

The Mission's tour of India began in New Delhi, where discussions were held with the ministries and departments concerned with housing and planning. Generally speaking, housing policy and finance are the responsibility of the States, and there is no special allocation for housing, or for any of the social services in the national budget. Consequently, there are considerable differences in policy and progress throughout the States.

The Indian Congress, however, does take a deep interest in housing, and is very much alive to the possibilities of social and economic planning. A Planning Commission has been set up since the Independence to study the economic development of the country's resources as a whole. A number of quotations from a paper entitled "Organisation and Work of the Planning Commission" have been included in an appendix,* and it will be seen that the Congress recognizes that its work will "affect decisively the future welfare of the people in every sphere of national life."

Last year the Commission, after a memorandum on housing had been prepared by its Employment and Social Services Division, appointed a Housing Panel to advise on housing matters. The Mission met with the Commission in New Delhi and later with the Housing Panel in Bombay. At the conclusion of the tour of India, the Mission submitted some notes to the Panel which have been included at the end of this Chapter as part of the general recommendations relating to India.

The housing and planning activities of the Central Government bodies are briefly as follows:

Ministry of Health. As part of its responsibilities for the health of the nation, this Ministry is responsible for advice and guidance in housing matters. In the Housing Division of the Ministry there is a small

*. See Appendix A, Quotation from a review by the Indian Government of the "Organisation and Work of the Planning Commission", August, 1950.

professional staff of town and country planners, architects and engineers, whose function primarily is to give advice, undertake research and study the development of major projects. This staff also services the Housing Panel and the Planning Commission.

The Ministry of Health's housing staff has recently advised the Ministry of Rehabilitation on the general planning of several refugee settlements, and has itself designed and executed the Federal refugee project at Faridabad.* It has collaborated with the Public Works Department on major projects in and around Delhi, and with the Department of Labour on industrial housing projects. The Division is responsible for new towns policy and has prepared a plan and report of a proposed new seaport town of 50,000, to be called Gandhiham, for the Sindhu Resettlement Corporation, Bombay. In the opinion of the Mission, this plan and report were notable for the way in which the most progressive community planning principles were being adapted to Indian conditions and needs - a situation which is not common in many of the States and municipalities. Recently the Ministry has sponsored the establishment of a Government housing factory, as part of its housing research development.**

Department of Labour. This Department is responsible for housing in so far as it affects industrial labour conditions. In 1946 the Department issued a report*** which was concerned with: (a) the feasibility of a building fund for housing workers in industry; (b) the basis for determining rentals; (c) minimum standards; (d) the manner of administering funds available from Government, employer or worker; and (e) facilities that should be granted by the Federal and State governments to promote housing. No conclusive Federal policies have so far emerged from this study, but all of these subjects are referred to in Chapter I of this Report; housing standards are discussed in a separate section of the present Chapter. Recently the Department has collaborated with the Ministry of Rehabilitation and the Ministry of Health in labour organization for refugee settlements.

* See paragraph 6 of this Chapter.

** See paragraph 9 of this Chapter.

*** Report of the Industrial Housing Sub-Committee of the Standing Labour Committee, published by the Manager of Publications, Delhi, 1946.

Public Works Department. This Department is a central policy making and advisory body for public works policy throughout India, as well as the local executive body for town planning in Delhi. It constructs roads and public services, schools and public buildings, and is responsible for the housing of Government employees and refugees within the limits of the Municipality of Delhi. It has undertaken a basic planning survey for Delhi and a basic development plan, mainly covering road systems and allocation of land for building. In its planning activities it is hampered by the lack of effective city planning legislation, and by the existence of eight independent local authorities, including the well-favoured New Delhi where most senior government officers and well-to-do citizens live in spaciouly planned surroundings, in contrast to the congestion and squalor of the other seven districts. The Department also is interested in building and housing research and has recently appointed an officer to investigate the costs for low cost housing throughout India, up to a standard of three living rooms. This investigation is to cover labour and materials, design, structural methods administration and execution. It is an example of the useful but unco-ordinated research referred to in Chapter I.

Ministry of Rehabilitation. This Ministry was set up, soon after the Partition, to deal with the refugee emergency described previously.* It is responsible for the policy and organization of refugee settlements sponsored directly by the Federal Government and by the States. On technical matters it collaborates with the Ministry of Health and the Public Works Department.

Relation Between Federal and State Governments. The responsibility for housing and planning and for building and sanitary by-laws rests with the State Governments. There is no obligation on the part of the States to pass specific legislation or, indeed, to enact any legislation concerned with town and country planning, or to assume any responsibility for the provision of houses. Consequently, housing and planning policy and the degree of activity in these fields vary considerably in the States.

* See paragraph 1 of this Chapter.

The mission strongly recommends that for social and technical reasons, and indeed for reasons of national economy, some machinery should be set up for national direction, programming and research in these fields. Chapter I emphasizes the importance of a "focus of responsibility" for housing in all the countries and Territories visited.

The Central Government of India does not seem to have had very much support from the State Governments in its attempts to evolve a financial policy for housing, as can be seen from the history of the last four years which is quoted from the Report of the Environmental Hygiene Committee.*

This Report is concerned with steps to be taken to implement the housing and planning sections of the Report of the Health Survey and Development Committee (Bhore report), 1946.** The recommendations for implementing the proposals of the Bhore Report are in line with much that the Mission suggested for general application in South and South East Asia: for example, the need for a national code of housing standards and a programme of building research; improved organization for housing as a public utility; promotion of co-operatives; provision of grants in aid; the necessity for town and country planning to precede housing; and effective planning legislation in every State and municipality. The Bhore Report strongly recommended setting up machinery and enacting legislation for "town and village" planning on a national and regional basis.

3. Legislation for Housing and Planning

This subject has been dealt with in general terms in Chapter I. It has already been mentioned that in India the power to enact housing and planning legislation rests with the State Governments, which may also, at their discretion, request municipalities to take legislative action.

The Mission believes it is essential to establish a central government policy for housing and planning legislation, and recommends that the Government should consider making it obligatory for every State to enact,

* See Appendix B.

** Government of India Press, New Delhi, 1946; findings and recommendations are summarized in Vol. IV, pp. 50-55.

with appropriate variations, satisfactory legislation for housing and slum clearance and for town and country planning.

Improvement Trusts have been operating for some time in most of the larger cities. They usually have strong powers for clearing slums, but they are seldom obliged to provide adequate housing for the families who are forced to move. In any case, the powers and activities of Improvement Trusts are much too piecemeal to be satisfactory, particularly in those instances where they are not backed up by town planning legislation. Frequently, the planning legislation that does exist is out of date and inadequate.

Another aspect of legislation essential to any reasonable advance in housing and community planning is control of land values. This has been emphasized in Chapter I, and it is the categorical opinion of the Mission that no Indian city has any hope of solving its housing problems until it takes drastic action either by public ownership, or part ownership, of urban land, or by modern legislative action to control and stabilize land values and prevent obstructive land speculation.

The need for such action is dramatically illustrated for example, in the case of Calcutta - a city with very poor housing conditions which has doubled its size in 20 years - which has no development plan, no planning control, and a land acquisition act which requires it to pay highly inflated market values plus one third to land owners for any land acquired for housing the poor.

4. The Housing Problem

The Report of the Environmental Hygiene Committee* gives a full account of India's present housing problem. Housing conditions in urban areas were very bad even before the war, but the Report points out that they have deteriorated seriously in the last eight years, that "families accustomed to good living huddle together in single rooms under indescribable conditions of privation and pay inflated rents to retain them," and that "greed has debased human beings to the level of beasts in exploiting the shortage of housing accommodation for their profit."

* See Appendix B.

An idea of the intensified overcrowding problem can be gained from the fact that between 1941 and 1946 the city of Madras increased in population by 58.9 per cent, while the increase in the number of houses was only 2.4 per cent. Furthermore, Madras, though it has escaped the influx of refugees, has been growing steadily since 1946 with only the barest increase in the percentage of new houses. The Report estimates that throughout India as a whole, apart from the influx of six million refugees, the urban population in the decade ending in 1951 will have increased by 66 per cent, while the increase of houses will not exceed 20 per cent. "To maintain even the standards of 1941, new houses will be needed for 46 per cent or 9.2 million people, or about 1.84 million houses at a density of 5 per family."

At the same time, the average rise in building costs in the last 10 years is from 8 rupees to 15 rupees per sq. ft. (from 12/s to 1.2.6d., or from \$1.68 - \$3.15

No comparable estimate seems to have been made of the rural housing problem, which is discussed in general terms in a later section on Villages and Self-Help.*

5. Housing Standards

The Environmental Hygiene Report also discusses urban and rural housing standards in some detail. The Mission, in view of its limited knowledge of varying Indian requirements, has confined itself to a general statement of principles with regard to housing standards.

The main point the Mission wishes to emphasize is that it is important for the Central Government to take responsibility for establishing a general policy for housing standards in consultation with the State Governments. It is obvious that in the varying climatic conditions and customs of India the standards themselves should vary in detail, but a national policy is desirable in order to ensure a satisfactory level of housing standards.

* See paragraph 7 of this Chapter.

The Mission is in agreement with the Committee that the minimum space standard should be two rooms for living and sleeping, except in the case of hostel accommodation with communal feeding and cooking facilities, and that in urban housing there should be a latrine for the exclusive use of each family.

It was noticed that a great many of the housing schemes built in the last four years fell far below the standards proposed by the Committee, although their proposals are not too exacting. However little money is available for housing, there is certainly no saving in creating slums for the next generation.

The Mission also wishes to emphasize that building and housing research should be regarded not only as contributing to improved and cheaper building methods, but also to the revision of housing standards. For example, the heat insulation factor of the material used for a roof or ceiling may affect the minimum height laid down for a living room. The degree of cross ventilation may likewise influence the height factor. A scientific approach to housing standards is necessary and will lead to greater economy in the use of material and better living conditions.

6. Resettlement of Refugees

There are three main types of refugee settlements, which may be distinguished as peripheral, satellite and independent communities. Many examples of all types were visited by the Mission, but only a few aspects of those which it is believed have a lesson for future developments in India and in other parts of the area are described below.

Peripheral Refugee Communities. In Delhi the first refugee settlements were built on the outskirts of the city. The Government was able to act quickly in preparing sites because considerable areas of Government owned peripheral land were available.

There are two categories of peripheral settlements in Delhi:

1. Subsidized housing schemes for low income families, with land and site preparation costs provided by the Government and loans for house construction repayable over 60 years.

2. Self-supporting housing schemes for middle income families with houses bought outright and roads and services (installed at a later stage) repayable as rates.

Land and site preparation in the second category is usually 20 per cent of the cost of building construction.

Standards of accommodation were fixed from the outset. Because of desperate necessity, houses in the low income category have only one living-sleeping room, though an adequate verandah is supplied which can be comfortably used for sleeping in the long dry spells in this part of India. Some terraced housing has been planned however so that two houses can be easily converted into one unit when more houses are available, and there is already an arrangement by which a family may occupy a twin unit as soon as it is able to pay the purchase price.

It is to the credit of Government that, in spite of the urgency of the operation, these communities were all planned with central open spaces, and sites for shops, schools, clinics and police stations. Many of these facilities have already been provided. Some of the secondary schools have been combined with trade training centres where, in addition to the regular curriculum, such occupations as weaving and tin box making are taught.

This has helped to provide useful and much needed sources of livelihood.

Several lessons were learned from the first rush scheme at Rajendra when 2,400 houses for some 150,000 people were mistakenly built on a "temporary" basis. Second-hand bricks and mud mortar were used, and roofs were of asbestos sheets with no insulation - a serious hardship in the extreme heat of Delhi. It is now realized that these houses will have to be expensively maintained as permanent houses. Furthermore, because of the assumed "temporary" character of the scheme, too high a density of building was allowed and community facilities were seriously curtailed.

In Calcutta, peripheral developments also are being built to a large extent on Government owned land. The houses, which have been generously spaced, are of more temporary character. The Rehabilitation Department has erected wood-framed structures with aluminium or asbestos roofs, and has sold rattan, bamboo or similar types of screens at nominal prices, to be fixed to the frames by the occupying families. These screens are satisfactory shelter in the Calcutta climate, provided they are kept under repair or replaced after two or three years.

Satellite Community at Faridabad. Faridabad is one of the Federal Government's pilot projects. It is specially interesting because of the self-sufficient, self-help basis on which it is being built. The Mission visited other refugee townships of this kind outside Bombay and Calcutta, but has confined itself to a description of Faridabad because it is fairly typical, and, in addition, has some interesting experimental features of importance for other countries as well as for other parts of India.

This new township, still under construction, is within ten miles of the city and therefore to some extent dependent on it. It is intended, however, that its population shall be largely dependent on new local industries.

The master plan, prepared by planners and architects in the Ministry of Health, allows for 40,000 people disposed in five "neighbourhood units" - that is, separate communities each with their own school, shops, playground and meeting place.

The project is operated by a statutory body sponsored by the Government. Building is entirely co-operative, and there are no contractors employed.

(This feature is not typical of refugee towns; it is being tried as an experiment.)

A remarkable feature is that all work is carried out by untrained refugees who were mostly shopkeepers - in India, manual labour is usually regarded as an unworthy task. Enough shopkeepers were found, however, to agree to work on a subsidized co-operative basis, that is, the wages normally paid to manual and skilled workers were subsidized at the beginning by as much as 150 per cent, this subsidy being gradually scaled down to nil as the apprentice workers mastered their skills. Trades instruction was given, and even brickworks were run on a co-operative basis by non completely strange to the job.

The houses have two living-sleeping rooms, a kitchen, a shower and communal latrines. There is no verandah, though this may be added later. Walls are of hand-made bricks in mud-mortar. Roofs are flat, constructed of precast reinforced concrete beams (also made by the refugees) with a rough tile filling, surfaced with a mix of earth, straw and cow dung for insulation and weatherproofing.

The water supply is taken from wells, the presence of which was an important factor in determining the site. The town-planners would have preferred a more thorough investigation of suitable sites for several of these towns, but there was not enough time available for this.

Power and water supply were regarded as the first essentials. Power is to be supplied from a war damaged plant, now being reconstructed. Several manufacturers have been persuaded to establish factories in the new town and some refugees are starting up their old industries again.

In addition to Faridabad, a brief reference should be made to the new settlement in the town of Kalyan, outside Bombay on the Poonah road, which is going to be one of the largest housing schemes and has a variety of housing methods. Some of the houses are built by the State Government, and these have been interestingly sited on sloping ground. Other houses are to be built by self-help methods. There is also a very interesting vocational training centre.

Habra, a new town of 50,000, built by the Construction Board of West Bengal on a disused airfield outside of Calcutta, also is of great interest.

In this case, there is no industrial decentralization policy to encourage development in this town, although it is badly needed. A second township, now in the planning stage, promises to be more fully organized in this and other respects.

Independent Community at Nilokheri. This settlement, about 80 miles from Delhi, is perhaps even more interesting because it has been conceived as part of a scheme of agricultural rehabilitation. It is smaller than Faridabad - the population is only 7,000 - but it has been planned as the market and rural industrial centre for 75 square miles of countryside with an existing village population about four times that of the town. A detached new village settlement for farmer refugees (cash crops and market gardening) is also being planned.

Nilokheri is entirely self-sufficient and self-supporting, except for essential commodities such as steel, coal, cement and petrol. Interest-free grants are given, but otherwise there is no subsidy.

The Ministry of Rehabilitation, in his official account of the project, visualizes the "creation of a new republic in the spirit of the Gandhian concept", and states that the town "shall harbour only those who work for a living, who do not earn a rental on other peoples' toil". All are to have equal opportunities and are to be regarded as "equal outside the sphere of work".

The refugees at first all lived in a tented camp and some of them were still doing so at the time of the Mission's visit. Schools have been in operation from the outset in these tented camps.

Factories have been set up in discarded airplane hangars, and here, as in Faridabad, refugees are trained to make all the necessary building parts for their houses. Associated with the factories is a training centre, giving instruction in a great many trades, crafts, cottage industries and manufactures. Farm implements, simple farm machinery, and even castings are being produced by people who initially were quite unfamiliar with this kind of work. The training centre has three cardinal principles: "the muscles can do it, they must be trained to it, conditions must be created to do it."

The project started with a higher than usual housing standard of three living rooms, but this has had to be reduced to two rooms, expandable to three rooms and a verandah later. Houses are co-operatively built, but are not owner occupied.

The master plan has been prepared by the Architecture Division of the Public Works Department. There is an attractive community centre already in use. It has shops, a community hall, a small hospital, a museum, a school and playground - and a Yogi health centre.

But the most important feature of Nilokheri as a new township is its concept of interdependence with the countryside. The countryside produces food for the town; the town acts as market centre for the countryside and makes farming implements. Villagers are given instruction in improved farming methods with the new implements. They produce more food, grow more prosperous; they come to the town to buy the clothes, cooking utensils and soap which are made there; they improve their houses, and so on.

In a simple, miniature form, Nilokheri is one aspect of the principle of metropolitan regional planning which is discussed in Chapter I. While producing more food and improving life on the land, a development of this kind helps to check the disproportionate growth of the metropolis.

These three types of settlements should be studied not only as refugee settlements but as contributions to problems of urban and rural rehabilitation. The Mission is of the opinion that participation by the United Nations in a project of this kind would be valuable for the South and South-East Asia area, as an experiment in social and economic development.

7. Villages and Self-Help

The climate and vegetation of India vary greatly. There is the temperate climate of the hill country in Kashmir, the fierce summer heat and cold winter nights of the dry lands in the Punjab, the humid tropical heat and lush vegetation of Madras - and many more variations of these from East to West.

It is not surprising, therefore, to find variety also in the character of the villages - in the traditions which influence their layout, the customs, crafts and local materials which influence the form and construction of their houses.

The commonest building material all over India is mud - usually mixed with cow dung and fibrous grasses, or plaster covered wattle. In the drier parts, mud is used for walls and also for flat roofs. In the south, and around Calcutta, where the winter is more temperate, bamboo and similar types of matting are used for part or all of the walls, and palm or reed thatching is common. In the rice lands there are wood-framed houses raised above the ground, and in these bamboo mats and thatch are also used. In the Punjab and in most of the desert lands, the houses in the villages are often huddled together, but in Madras it is usual to find more open developments.

Poverty and disease are common to many Indian villages, and there is widespread fear of famine. Urban dwellers are apt to point out that living conditions in urban slums are much worse and that work should be started first on the more urgent task of clearing up the cities. But it seemed obvious that the Government of India is very much concerned about the villages, in which 85 per cent of the population live. The Government is also concerned about food. Food production cannot be increased without improving the living conditions and hence the productive capacity of the villagers; nor can higher living standards be achieved without an improvement in the rural economy. This often requires large scale investments in roads and in reclamation, irrigation and electrification projects.

The degradation of the city slum dweller may well be worse than that of the villager; and some of the worst slums are, in fact, villages within cities: villages where the same primitive life is lived, but in much more insanitary, overcrowded conditions, without the chance to collect native building materials, to get food from the fields, or to return excreta to the fields.

Such urban conditions are indeed very bad; but the lot of the villagers is equally serious, particularly if one considers how completely cut off most of them are from the ordinary civilized amenities of the town, and how little opportunity they have to improve their lot. It need not be emphasized that in the present state of the world India cannot much longer afford such an underdeveloped rural economy.

There is another field project which may point the way to at least one kind of solution, if it could be undertaken on a larger scale, and which, in the opinion of the Mission, demonstrates a realistic approach.

But first let us look at a village today.

Indian Village. The village is in the East Punjab - the dusty, sun-scorched desert country in which the oasis of New Delhi has arisen. It is a typical cluster of mud cubes, sheltering about 250 people, and it seems to be surrounded by a continuous wall, like a fort. Close by the village a blind-folded camel is ambling round in a circle, treading grain.

Just outside the wall is a water hole, ringed by banyan trees. These water holes, sometimes in conjunction with converging trails, determine the siting of the villages. The hole has been enlarged by excavations for the mud out of which the village is built.

The houses are nearly all of mud - walls, floors, roof; some roofs, however, are of thatched reeds, blackened inside by the smoke of cooking. Occasionally the mud walls are enlivened by the elaborate carving of a wooden door, or by the patterns on the walls made by discs of cow dung, drying in the sun to make fuel. (Patrick Geddes, while he was in India, used to deplore the fact that the Indian religions developed their ritual practices before the value of dung for cultivation became known. He used to urge the villagers to grow fuel trees so that the dung could be given back to the land; but this is rarely done).

To walk through the narrow lanes of the village is to feel that one is walking in the corridors of a large rambling house, so close together are the houses. There is nothing approaching a street system and nothing much that one could call an open space, except that suddenly, as the

corridor-street turns another angle, one enters a small tree-planted square with a well in the centre, mounted on a stepped platform. At one side of the square is a little temple, built of sun-dried bricks and earth mortar, as are a very few of the bigger houses. Set into a niche in the wall of a cow-shed is a garlanded shrine. Here around the well women in bright saris, carrying finely modelled earthen pots on their heads, gather to gossip in the course of the day's work; and here sometimes men, women and children celebrate their social and religious festivities.

The mud walls of the houses are thick to give insulation from the sun and from the cold at night. There are few window openings and they are very small. The flat roofs are made of mud slabs on wood joists, compacted on top with earth and dung.

Some houses have one room, others two, and one of these is often a back room against a neighbouring house, with only borrowed light and air. The rooms are frequently shared by the animals. One room gives on to a small court in which the cooking and eating sometimes take place. Sullage water often drains from the court in a curious channel under the next-door house and collects in a pool which makes a good breeding ground for mosquitoes; drainage does not exist.

This village is fortunate, for it has just been given a school room and a dispensary. These are extremely popular. About 5 per cent of the population are literate and all, the Mission was told, are very eager for their children to go to school; The dispensary is certainly a help. Malaria, hookworm, tuberculosis and the plague, all take their toll.

The ordinary earnings of a peasant proprietor farmer in this village are about 500 rupees a year (about 37 pounds or 105 dollars). If he were to have a two-room house built for him by hired labour it would cost him 1,000 rupees. This explains why self-help building is the only hope until the vital new roads are built and irrigation, reclamation and mechanization get under way.

Agragami Projects. This is an aided self-help project⁺ on a fairly large scale, supported by Congress but entirely financed and organized by the State Government of the Uttar Pradesh (U.P.). The project is near the town of Etawah and is known as Agragami, which means forerunner. It is also known as the Hundred Villages Project. It is a social and economic experiment in the rehabilitation of some hundred villages not very different in character from the one just described, except that the farm holdings in this area are smaller than those in East Punjab, and the farmers are not peasant proprietors but pay rent to absentee landlords. The project area is about 100 square miles in extent, and its total population is about 79,000. The average village population is 800 - 1,000. There are two or three townships of 5,000 to 7,000 which serve as marketing and administrative centres.

The political basis of the project is the Congress Party manifesto, which declared that the agricultural land of absentee landlords would be expropriated by the State Governments, according to a system of compensation assessed at ten times the annual revenue of the land. The U.P. Government is at present engaged in paying off the landlords and, in the first stage, collecting rents from the tenants. The intention is that ultimately the land will be owned by the peasants, and if a tenant farmer is able to make a down payment amounting to the compensation figure of ten times the annual revenue, he ensures ownership. Otherwise, he can purchase by instalments. The scheme has had many setbacks but there are promising signs of success.

The main idea of the project is that the villagers should be taught how to increase their prosperity by increasing the productivity of their lands - for example, by using phosphates in the cane fields to increase the sugar yield and by making the best use of irrigation or of modern machinery. With this primary training goes "fundamental education" at home and in school. Health and education services have been started, and mothers are

+ See also Appendix C, Pilot Development Project Etawah.

taught the elements of village hygiene and the value of immunizing themselves and their children against malaria and other diseases.

The management of the project is very enthusiastic. It organizes trained field workers on the basis of one to every group of three or four villages, which normally are within seven miles of each other. The villagers, in return for their rent and a small co-operative membership fee, receive social and technical services which they have never enjoyed before. They appear to respond very well. The principle is that the villagers should be in the scheme, and of it, and that they should pay their share of the benefits. The Government is nursing the project in the pioneer stages, but it is hoped that it will run itself on a co-operative basis in time.

The management also undertakes the task of co-ordinating the various technical services available from the State Government. For example, the State Planning Department's town and country planning division (which incidentally is said to be better equipped than in most of the States) is called in to help in the replanning of a village. An American planner is consultant for the project and for the U.P. Government generally.

Village replanning is proceeding slowly. The "organic" process of village improvement preached 30 years ago in India by Patrick Geddes, the famous sociologist-planner, is being followed today in the Etawah project.* For example, if a house collapses it is suggested that it should be built on a better site to avoid crowding its neighbour and to help open up a little square where shade trees can be planted to form a pleasant gathering place at midday. A group is formed to help build an improved structure, perhaps with larger windows, better ventilation below the roof and a verandah facing away from the evening sun. A campaign is organized to rid the village of stagnant pools and to keep the tank or the water hole cleared of weeds which harbour mosquitoes. A farmer who has followed the scientists' methods and has had a bumper crop is given advice on building himself a good house of brick.

It is interesting to notice how nearly this individual, self-help approach corresponds to the Geddes method.

It was encouraging to see this same approach to village planning being tried by the State Planning Department of Hyderabad.

A social study of village life in the Etawah district was made by R.O. Singh in 1949. The social and economic results of this significant venture should well repay further investigation. In the opinion of the Mission Agragami seemed to be one of the most promising pilot schemes in India.

8. Growth and Decay of the Cities

After what has already been said about cities and about urban housing and planning problems, a brief account should follow of the main

* See Appendix C.

characteristics of places visited by the Mission. In addition to Delhi,* the Mission visited Bombay, Hyderabad, Bangalore, Madras and Calcutta.

In all the big cities, living conditions for the mass of people are bad by any standard, though the particular characteristics of the slums vary. Most cities, large and small, have set up Improvement Trusts with special powers to clear slums and acquire land for rehousing purposes. In all of the cities visited, the Improvement Trusts lack adequate funds and technical staffs. None of them employs qualified architects or planners; none has any satisfactory social or housing management organization (although individuals make good amateur efforts); none is working in accordance with any recognized city development plan; none is able to house families with the lowest incomes. There is, however, a great deal of enthusiasm for the task among the members and officials of Improvement Trusts, many of which are making good progress on a small scale, in spite of serious handicaps.

The work of the Improvement Trusts is usually supplemented by the separate work of municipal housing boards or by public works departments responsible for the housing of Government employees; but the total amount of rehousing is extremely small in relation to the needs. At the present rate of progress there is no hope of keeping pace with the increase in the city populations, nor is there any hope, with present legal, administrative and technical limitations, of eliminating slum conditions within 100 years. Prevention of obstructive speculating in land values and profit-making in slums are clearly two of the first problems to be tackled if slum clearance and adequate rehousing are to become a reality on the scale required.

One other general observation the Mission would like to make, concerns the enormous waste which results from trying to tackle these complex problems without a well equipped technical team, conversant with modern housing and planning techniques. In new housing schemes, the design of houses and apartments and their site layouts is often neither scientific nor economic. Space is squandered to a surprising extent - for example, in the careless

* See paragraphs 2 and 6 of this chapter.

planning of stairways in tenements; in extraneous "architectural features" which would be better eliminated; in the use of excessively wide monumental road systems, which bear no relation to traffic needs and only succeed in wasting good land and raising dust.

The conservation of space and material, which should be among the guiding principles of modern housing technique, are too rarely practised. The Mission frequently found that a half-hour talk over a drawing board with the authors of a plan resulted in planning improvements which will save many thousands of rupees in roads, releasing money for more houses and at the same time increasing the number of open spaces and providing more adequate sites for community facilities. Economy in staff may cause waste of material and though this is sometimes realized, too often there is no staff to be had.

Bombay has a population of two and a half million, an increase of one million since 1941. The refugee problem is serious, though not quite so serious as in Delhi and Calcutta. The interesting new refugee township of Kalyan has already been mentioned.* Thousands of refugee squatters on the outskirts are still unhoused, and thousands are packed into city slums.

Some very informative reports were published by the Housing Panel, the Town Planning Panel, and the Traffic Panel of the Bombay City and Suburbs Development Committee.*** The Housing Panel favoured the provision of financial assistance by the Central Government through facilities somewhat similar to those of the U.S. Housing and Home Finance Agency. The Town Planning Panel emphasized the advantage of preparing a comprehensive city plan. Some steps have been taken in this direction, and a visiting American consultant has been engaged to work with the City Engineer on the plan. An interesting tentative development has been prepared, but it is not statutory and is admittedly only a preliminary solution, not based on any thorough survey of communications, industry, shops, schools, open space, etc. It makes proposals for a satellite form of development, which appears to be an excellent

* See paragraph 6 of this chapter.

** Printed by Municipal Printing Press, Bombay, 1946. See also list of publications on Bombay in Appendix

solution for this city, confined as it is to a peninsular site. Some very interesting detail designs for new communities have been prepared, making good use of new techniques in community planning. There is a town planning act which the Mission was not able to study, but the Town Planning Panel is of the opinion that it is defective and should be brought up to date.

The characteristic slums of Bombay are the "chawls" - mainly three-storey tenements (some constructed within the last ten years) - some with family rooms opening off internal corridors, and with communal sanitary facilities. There are some very bad mill chawls of a different type, as well as "shop-houses", similar to those in Singapore: narrow fronted houses of three storeys and of great depth, with dark internal cubicles in which whole families live with little light or ventilation. Again, there are vast areas of shack slums, or squatters' camps, such as the Matunga labour camp. Some of these are well within the built-up area.

Some good housing schemes have been built in the last few years by the Improvement Trust, mainly in the form of three-storey tenements of framed construction.* These have a high standard of construction and equipment and are much better planned than the old chawls type of tenement. The Bombay Housing Board has also built a wide variety of tenements and single storey houses in Bombay, and throughout the Province. The Board is also responsible for the refugee settlements. Most of the new tenements have two living rooms, a kitchen, a shower and a water closet, but some have only one living room. The Mission wishes to observe that - in cases like this - if policy demands units of only one room, it does not seem economical or desirable from the point of view of social policy to provide such single room family units in the form of expensive permanent construction. It is believed that one-room urban units should only be provided in an exceptional emergency and in such a way that they can be converted to two-room units as soon as practicable. This is most easily done in single storey dwellings, such as those found in Delhi.

* See "Bombay Housing Board Type Designs", listed in Appendix K.

Land costs are forcing the Improvement Trust and the Housing Board to build a very high proportion of these three-storey tenements at typical gross densities of 15 families (which means at least 100 persons) per acre. In central areas, 20 to 25 per cent of the total cost per unit is for land costs. In spite of this, the Housing Board is trying to maintain a basis of 10 per cent of earnings for rent, though in practice it is nearer 15 per cent.

Calcutta was known for its slums even in 1920, when its population was one and a half million. After Partition in 1947, two million refugees descended upon the city, and now the population is believed to be five million or more.

The city includes the separate municipality of Howrah, on the opposite side of the river, which has a tightly packed community of 300,000 with no sewerage, open drains and numerous unprotected pools or wells.

There are few tenements. The slums in the central area - known as "bustees" in Calcutta - are mainly single storey brick dwellings in which humans and animals live at an incredibly high density which, the Mission was informed, sometimes amounts to over 1,000 people per acre - or not much more than 40 sq. ft. per person. It is no wonder that in every street at night one finds men, women and children asleep on the pavements.

An aerial mosaic in the office of the Improvement Trust gave an excellent impression of the almost solid development of Calcutta, relieved only by the one magnificent open space, the Maidan, which ventilates the well-to-do part of the city behind the fort.

Mention has already been made of the work of the Rehabilitation Department, which is making some good preliminary improvements on the outskirts and has built the new town of Habra* on a disused airfield. There is to be a new refugee town of 150,000 - probably the largest one in India - which is now being planned in consultation with a Swiss architect.

The Calcutta Improvement Trust has been trying to clear the slums for

* See paragraph 6 of this chapter.

many years and is working on a plan of road improvements at the same time. Its contribution to the problem, however, is extremely small - for the usual reasons.

There is no town planning department in Calcutta and no planning legislation. However, the Mission found that a metropolitan regional plan for the City has been under consideration by the State Government for some time. In the Damodar Valley project, whose boundary touches Calcutta at one point, there is something approaching the geographic regional planning discussed in Chapter I, though it is understood that the intended social planning is not yet under way.

There seems to be an opportunity for a metropolitan regional plan to be prepared for the city simultaneously with the Damodar Valley Plan, with a view to siting new towns in the valley region or elsewhere. The whole problem is exceptionally difficult and would require the services of an expert team for several years; but a regional plan for Greater Calcutta is imperative. One of the many great difficulties, apart from those in the built-up area, is that the cultivable land in West Bengal is limited. There are only 1,000 people per square mile and holdings are only one-third of an acre in area, but attempts are being made to overcome this situation. Schemes for rapid road building, electrification and drainage also are being planned. Decentralization into the agricultural areas, however, will be difficult; some 60 per cent of India's industries are in Calcutta and many are mills which it would be impractical to move from the centre.

But a solution will have to be found quickly, for the situation is threatening. An interim regional policy for decentralization seems the obvious first step.

Madras has a population of about one and one quarter million. It has no refugee problem, but the influx from the country is becoming extremely serious because the damage caused by the many uncertain monsoons in recent years has resulted in famine. There is the strongest case for a regional planning policy here also, based on engineering solutions to the water conservation problem.

Slums in Madras are village slums inside the city - mostly primitive huts with low mud walls and palm thatch roofs, huddled together in extremely insanitary conditions. Clearance and redevelopment is in the hands of a newly appointed Improvement Trust, very well run, but with a qualified technical staff of only two engineers. This team is also expected to prepare ad hoc redevelopment plans. The Improvement Trust is insisting on a minimum of two living rooms per house. Some very closely sited single room barrack ranges have been built by the municipality in the last few years.

There are two recent reports on housing and planning* which include some excellent proposals, including one for a regional planning organization. Since the planning report was written it has been decided not to have a city planning staff. As a result, the city engineer controls planning in the city without a planning staff, and there is only one qualified planner under the State Director of Planning, responsible for all developments outside the city, but with inadequate powers and no qualified staff.

High land values are said to be the cause of unusually high densities in new housing schemes; yet there are large areas on the outskirts, undeveloped either for building or agriculture. This is another instance of the need for a firm urban land policy to make good housing development possible.

One interesting development in Madras is a pilot health centre and nursery school - the first important attempt at positive health education. It is hoped that sub-centres will follow in other parts of the city.

Hyderabad is one of the most encouraging centres from the point of view of having a comparatively well equipped office of architects, engineers and planners. Mention has already been made of the excellent village improvement work being done by the office of the Chief Town Planner to the State, which is responsible for housing and planning outside the city. This office has also been doing some interesting work in the towns; for example, the

* Report of the Madras Provincial Housing Committee and of the Planning Enquiry Committee; see list of publications in Appendix A.

slums which develop around markets have been cleared and redeveloped by the building of a new market elsewhere and redevelopment of the old site with revenue from the new stalls.

There was an even stronger housing and planning team before the Partition difficulties, and Hyderabad State is fortunate in having a comparatively large supply of engineers, architects and planners.

Bangalore, a spacious city with finely sited public buildings, nevertheless possesses slums. Some ambitious, large-scale developments are taking place outside the town - again under the direction of an Improvement Trust. For the scale of the work this Trust is doing, a more developed country would employ some 20 or more qualified architects, engineers, planners, surveyors, and landscape architects; the qualified office staff here is believed to be not more than two engineers.

In the Government Architect's department there is, in fact, a small team of qualified engineers, architects and planners developing some interesting new community plans and housing layouts, and it appeared to the Mission that a teaming of the skills of the two offices would be an advantage in this case.

It was not possible to visit Lucknow and Cawnpore, but discussions were held with the Town Planning Officer of Uttar Pradesh State and the Executive Officer of the Cawnpore Improvement Trust. The Town Planning Department was started in Cawnpore in 1948. There is a planning act based on the (now out-dated) United Kingdom Act of 1936. Two per cent of rateable value is devoted to city improvement, and there has been an attempt at land value control.

Following the Geddes Plan for Lucknow in 1918, Improvement Trusts were established in the three main cities of the Uttar Pradesh State.

Jamshedpur, in Bihar State, is the only example in India of a modern town planned and controlled in its development from the outset. The Mission was unfortunately not able to visit it, but did have an opportunity of discussing it with the town manager who is also the chief planning officer. Jamshedpur has a population of 225,000. It was built by a

steel company for its employees on a community planning basis, and the minimum accommodation for a worker and his family is "2 living rooms, front and back verandahs, kitchen, bath and water-borne latrines, garden space in front and a courtyard in the rear".

9. Progress in Housing Research and Experiments*

There is a strong case for organized housing research in India as an important part of the South and South-East Asian programme which was discussed in Chapter I,

Congress has set a target of ten million houses in ten years. This is a staggering money investment, and an equally staggering problem in the supply of materials and equipment. From a brief examination of housing schemes recently constructed, and from experience in other countries, the Mission was convinced that substantial savings in money, man-power and materials could be made by intensifying current research work, and focusing it more directly on housing,

It would also be necessary to arrange for the effective collection, classification and diffusion of relevant information. It is significant that the Mission was unable to obtain any kind of review of the building research work going throughout India, although here and there public works departments and laboratories were doing extremely valuable work, sometimes unknown even to the neighbouring State.

* See list of building research institutions in India, Appendix E.

The economic advantage of intensified research has been stressed because this is presumably the strongest argument in its favour. But it is equally important as a means of improving health conditions, convenience and comfort in new housing schemes.

Research for housing and community development should by no means be limited to technological problems, but should include physical, social, and economic problems as well as specific aspects of Town and Country Planning^{*}. Some of the typical research listed would be carried out in laboratories, some in the field, some on office drawing boards; some would take the form of pilot schemes, or experimental buildings. The Mission believes it is important that the housing authority of every State should have a technical (in the broadest sense of technical) research committee to advise on the kind of research needed and to see that the different aspects of research are co-ordinated. In association with the appropriate research organization in the State, this Committee could periodically publish the scope and findings of research in process. On the other hand, it might be simpler to perform this service through regional research centres.

Regional Research Organization. India should be able to support at least three large regional research stations for housing and building: perhaps one near Delhi, where the National Physical Laboratory and the Karnal Soil Research Laboratory are situated; one at Bangalore, where the Indian Institute of Science is established; and one in Calcutta, where there is no major research being done but where the magnitude of the reconstruction problem would justify the establishment of a major research station. The Forest Research Institute, Dehra Dun, U.P. , is doing some interesting work on building uses of timbers, and its work should be associated with one of the regional stations.

This regional system would tally with the South and South-East Asia organisation for research which has been suggested by the Mission. Of India's three

^{*}/ Appendix D, see Tentative Classification of a Research Programme.

^{**}/ See Chapter II.

regional stations, each might concentrate on some particular aspect of research in addition to studying the potentialities of its regional building materials. For example, Delhi could concentrate on the development of traditional materials and methods, including forest products, in conjunction with social aspects of self-help building; Calcutta on the economics of standardization and prefabrication in timber and other materials, and the use of new methods and equipment; and Bangalore on the scientific and social aspects.

The Mission would like to suggest that Bangalore be seriously considered as a possible main centre for Indian research in housing and community planning - and indeed as a research centre for all South and South-East Asia. In Bangalore there is the important Indian Institute of Science, and also the Technical Institute, both unique in India. The Institute of Science covers a large field of research, some of which is basically connected with building, housing, community development and regional planning: for example, physics, power engineering, agricultural science, applied chemistry, industrial and statistical studies, economics and social sciences.*/ It would be a small step for the Institute to undertake, for example, studies in thermal factors and acoustic factors, and the Mission believes that this should be one of the Central places in the area where science, sociology, economics and technology meet on a high level of experience.

The research programme should not be too grandiose at the outset and should not concentrate too much on advanced methods and new materials. If inexpensive urban and rural housing is to be the main criterion of successful research, then two of the most important fields of research are improved use of traditional materials and building methods in conjunction with self-help building and development of local materials, including agricultural and industrial waste products for low-cost housing.

Many isolated examples of this kind of research are going on in India (the Mission was shown some excellent samples of bamboo wall-board in Hyderabad and a cellular bamboo wall panel in New Delhi) but the field needs to be organized into a big scale all-India programme.

*/ See Fortieth Annual Report of the Institute; listed in Appendix K.

One of the best examples of an organized research programme was observed in Hyderabad. Two very significant things are happening there. One is in connection with the aided self-help village programme which has already been mentioned.*/ Barrel-vaulted houses with home-made "flower-pot" tiles are being constructed. All the materials in this construction are procured or made on the spot. Mud bricks are used for the semi-circular end walls and low side walls. Bamboo poles are used as centering between the walls. Traditional flower-pot tiles, made by the villagers, are fitted one into the other to form the barrel-vault, and are then plastered inside and out with mud plaster, sometimes mixed with lime and sometimes stabilized with about 4 per cent of cement. Grills made of clay bricks, or cast concrete, take the place of windows, and the only carpentry required is for the doors and frames. Floors can be of concrete or stabilized earth. In the villages, houses of this kind can be made at practically no cost, and if built outside towns by hired labour, their cost is estimated at 1,000 rupees (₹75 or \$210) for a space large enough to be divided into two rooms by a partition and including latrine, shower, and the high-walled courtyard still required by purdah for most Mohammedan families.

Research for the Masses. The other Hyderabad venture is "research for the masses", as it is called, being conducted by the Hyderabad Engineering Research Department which services the various State Engineering Departments. Some especially interesting experimental rural houses have been built there in statilized earth bricks, made two at a time in an improvised machine once used for cartridge filling.

This is literally and figuratively "down to earth" research, based on a study of the customs of the people. The houses are skilfully and pleasingly designed, and demonstrate, for instance, the value of cross ventilation by means of extract vent holes under the eaves; the value of planning for maximum use of limited space; the advantage of placing the verandah on the south-east corner; the advantage of a convenient, well-lighted recess for preparing food; the way to make a smokeless chula (cooking stove). Considerable research has been put into the development of the chula, which ought to be made known.

*/ See paragraphe 7 of this Chapter.

This is an excellent example of the kind of local research which ought to be going on in many localities. The educational aspect of it is also very good. At the time the Mission was there, preparations were being made for a "symposium and exhibition on cheap and healthy homes for villages and towns".

If the Hyderabad experiments could be repeated in many parts of India and linked to a well-conceived programme of applied research in all the aspects mentioned above, the impetus to healthier, cheaper housing would be enormous.

Prefabrication. Another aspect of research being tried in India is concerned with prefabrication, by which is meant the production in a factory of the complete parts of the walls and roof of a building, which are later assembled on the site. The most interesting example of this is the Government-sponsored house factory at Delhi. The walls and roof of this prefabricated house are made of "foam" concrete slabs 4" thick, which gives as good insulation as 18" brick walls- an example of the value of scientific development.

The factory was very efficiently laid out. Whether the standard semi-detached house it produces will compete with a brick house of the same size is apparently in question at present, but it is interesting to find that even with the comparatively low cost of labour in India do-day, a house with comfort conditions superior to those in a typical house with 9" brick walls and non-insulated 6" concrete slab roof, can be produced for approximately the same price.

The important point about this prefabrication experiment is that it depends on the use of local materials. Prefabricated building units transported from abroad or over long distances are hardly likely to compete with traditional methods. Foam concrete, which uses comparatively little cement, is a good material to develop in the tropics, whether in the form of the large units produced at Delhi or in smaller panels or hollow blocks. Its development deserves further study in conjunction with type designs and structural systems.

The foregoing is only a bare outline of the potentialities of research in India, and the Mission recommends that the organization problem should be studied in consultation with one of the major research stations of the world - one in which extensive housing research has been undertaken. This could be done, if necessary, through the facilities of the United Nations.

10. Gaps in Professional Training

The professional and trade training requirements of the area have been outlined in Chapter I and what has been stated there applies with special force to India. (The Mission feels that the problem of professional training in India calls for special attention by the United Nations.)

There is an extreme shortage of architects and town and country planners, and this, as has already been pointed out, is not only having a disastrous effect on the quality, efficiency and economy of many of India's great housing and community planning projects, but is also one of the chief reasons for the absence of progressive town planning in most of the cities where it is urgently needed.

There are only 250 architects in India, less than one for every million of the population. As for qualified planners, the number is scarcely one tenth that of the architects. Of the 250 architects, 150 are in Bombay, where many seem to have been engaged in work on luxury apartments and hotels. But it appears that in the important field of low-cost housing the valuable contributions to be made by architects are not adequately appreciated.

It is important to state here that the training and experience of architects in the more highly developed countries (and there is no reason to believe that this should not be so for other countries as well) is deeply concerned with the social, economic and technological aspects of building as well as with purely design aspects. In fact, the modern architect would deny that there is any such thing as "pure design", and that good architecture must spring from the fulfilment of social and cultural needs, achieved through scientific application of building material and systems. This is not to deny the power or the validity of creative design but to give point and purpose to it.

It has already been mentioned in Chapter I that the social, engineering, architectural and town planning aspects of housing are frequently left to a civil engineer who cannot be expected to master the skills of several professions at once. It is not that the architectural aspects are being neglected in the large Indian schemes, but that the conception of architecture appears to be misinterpreted and misapplied - often in terms of grandiose layouts, wasteful and inappropriate, which seem to reflect the type of design prevalent during the earlier part of the century. It was surprising to see so many little New Delhis springing up.

This point is argued so much in defense of truly native architecture - (though, with many Indians, the Mission would like to see a genuine development of modern architecture and town planning in India) - but because solutions of this kind, with wide empty roads where there should be play spaces and gardens, seem to have missed both the practical and the social objectives of planning. This would not be so if Indian architects and planners were trained in India to think in terms of India's problems, and to work as a team with engineers, economists and sociologists.

The members of the Mission had the opportunity of discussing this problem with some of the leading people of India's architecture and planning professions and of reading the proposals for courses in town and country planning suggested by the All-India Board of Technical Studies, Ministry of Education, which appears to be very interested in this problem.*

There are three schools of architecture at present - in Bombay, Calcutta and Delhi. There are no schools of planning. The two proposals for the training of planners, which it is understood have been discussed with the All-India Board, are complementary. One is for a university diploma and graduate course in planning, the other for a "staff college" system of refresher courses for those already engaged in housing and planning.

*/ Typescripts: Joint memorandum by D.R. Kagal and V.N. Prasad, outlining a policy for establishing schools of Town and Regional Planning in India; draft scheme for a Central School of Architecture and Regional Planning, by Dr. C. Koenigsberger.

It is not appropriate to discuss here the nature of the university course, but the Mission would like to express support of two of its main assumptions. First, it is important that a planning school be part of a university so that there can be close association with the various other professions which play a part in town and country planning. Secondly, in India it would be most unwise to regard the course purely as a post-graduate course for architects and engineers - the old system which is gradually being abandoned in most countries. In the first place, there are not enough architects and engineers; in the second place, planning in India needs to cover so much more than the "civic design" aspect of planning, which is admittedly the role of the architect-planner. In view of the need for comprehensive city and regional planning, the idea of short-term diploma courses and long-term degree courses, open to students of sociology, economic geography, agro-economy, and other subjects related to the social and technological aspects, as well as to engineers and architects, would be a wise policy. The views expressed in this direction in a recent United Kingdom report on the Qualifications of Planners^{*/} seem to be applicable to India.

The staff college proposal is very much in line with the Mission's proposal in Chapter I; it is believed that this is one aspect of training in which the United Nations could be very useful. It is suggested that a South and South-East Asian staff college be limited to courses of two or three months of a year, because it would probably not be possible to recruit teachers from abroad in sufficient numbers for a longer time.

The Indian proposal, as understood by the members of the Mission, is for a continuing staff college giving a series of refresher courses. The occasional intensive refresher course suggested by the Mission could quite easily be associated at intervals with the proposed permanent "Indian Central Institution". In successive years, different universities in the area would be chosen as centres for the international staff college. The course would place considerable emphasis on housing in its context of community and regional planning, and it is assumed that housing would also figure largely in the Indian course.

^{*/} Report of the (Schuster) Committee on Qualifications of Planners, H.M. Stationary Office, London, 1950.

Finally, the Mission is of the opinion that there is great need in India for a Chair of Housing, which ought to be in a university centre where a town and country planning course is also to be installed, and where there are schools of architecture and social science. The Chair could be associated, if necessary, with any one of these subjects, provided that a satisfactory link were established with the other two. It would also be desirable for other subjects related to housing and planning - such as economic geography and civil engineering - to be taught in the same centre. This would help to focus research on national housing problems. It would bring about a closer relationship between architects, planners, sociologists and the other professions contributing to housing, and would help to make all these professions interested in government service in this field.

11. Need for a Concerted Programme

A great many people in India are keenly aware of the shortcomings listed above, and have put forward suggestions for overcoming them. Recent official reports on the housing problem have made proposals for improved housing and planning legislation, more building research and better training facilities. Reference has already been made to two official reports which are the key Indian reports on overall policy for housing and community development. The Bhore Report ^{*} came out strongly for a "Ministry of Housing and Town and Village Planning" in every State, with expert direction at the Centre. The Report of the Environmental Hygiene Committee ^{**} to the Government of India in 1950, which considered the implementation of the Bhore Report, generally backed up its recommendations; it recognized that "town and village planning should always precede housing", and considered in detail the tasks involved in housing and slum clearance. The findings and recommendations of these reports, based on wide experience of Indian conditions, should be studied in conjunction with the Mission's recommendations.

^{*}/ Discussed in paragraph 2 of this Chapter; see also Appendix II.

^{**}/ Discussed in paragraph 4 of this Chapter; see also Appendix K.

The Mission believes, however, that a further practical step is necessary. The Environmental Committee outlined a policy for a programme of implementation but did not prepare the programme itself. It is suggested that the next step should be a more strictly technical and administrative investigation to determine a programme of concerted action in all the related fields of housing and community development touched upon by the Mission: namely, legal and administrative measures; financial formulae; city and regional planning techniques; housing research (technological, physical, social, economic, planning); professional and technical training; production and development programmes for building materials and equipment (see Chapters I and II).

The essential point is that a concerted programme in these fields holds out the most hope of maximum economy and success in working towards India's target of 10 million houses in ten years. A limited objective for the first three to five years might be the basis of the investigations proposed by the Mission.

From six months to a year would have to be devoted to the investigation, and it would mean putting a full-time expert team on the job. This team should consist of some eight to ten experts, for the range of experience required is very wide. The Mission is aware that recruitment of such a team would create the greatest difficulty for India where experienced technicians in some fields are very rare. However, there are accomplished Indians in some of the fields who could perhaps be spared for a year; and if the Government of India saw fit, the Mission believes this would be an excellent opportunity for United Nations co-operation -- not only in filling gaps in the team where necessary, but in taking part in this investigation as a basis for a fully developed programme of technical assistance.

Several suggestions for United Nations assistance are contained in this Report, and there is no doubt that in some cases this could be arranged without waiting for an elaborate technical enquiry. But in many other cases it is difficult to see how the required funds could be obtained without the assurance of a well formulated programme designed to yield the best results. In setting

up Regional Research Stations in India, a thorough enquiry would have to be made into selection of sites, scope of programmes, distribution of equipment, nature of specialist functions, and so on. The founding of a Chair of Housing would have to be just as carefully investigated as to the nature of the course and the location of the school; and a site for a staff College ought to be considered in connexion with the siting of one of the regional research stations, for it would be a great advantage to have close association between them.

These are examples of the kind of investigation that would have to be made by the technical team suggested, in conjunction with all the other fields and in relation to the finance programme.

In this way, India would be able to work out a concrete programme, complete in all its parts, and the United Nations would have a really effective basis for a programme of technical assistance.

It is abundantly clear that India is only too anxious to solve her far-reaching housing problems and that the present organization of the Indian Government and its Planning Commission has the capacity to conceive large programmes. Her desperate handicap at present is that she has not the technical staff to plan and execute such programmes in the field.