

HUMAN SETTLEMENTS

A COMMONWEALTH APPROACH



THE SUBMISSION OF THE JOINT STANDING
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SUMMARY & RECOMMENDATIONS

SUMMARY

The importance of human well-being is of universal concern, and is fundamental to the problems of human settlements. Human ecology is a focus for many disciplines in arriving at an understanding of the relationships between the individual his community and his environment. The many professions involved in human settlements cannot act alone but must operate in an open co-operative way to secure success in this field. The Commonwealth Human Ecology Council (CHEC) has acted as a co-ordinating agency in bringing together people from many professions concerned with human settlement problems. The Commonwealth, because of its shared ideals and its tradition of successful co-operation, can often provide a demonstration in practical co-operation. This report sets out to bring together not only many contributions from a variety of professional skills, but also to present a synopsis of various settlement problems in the Commonwealth, and the way in which Commonwealth Governments are setting out to deal with them.

The important basic criteria relating to human life can be viewed in an ecological context, from the most elementary needs on the one hand to the more 'improved' levels of human environment more characteristic of developed countries on the other. In the Report the basic requirements of adequate shelter and food and water are discussed at various levels, from inadequate provision to unbalanced or even over-provision. Work and creativity are seen as basic needs, from the construction of shelter to fulfil individual requirements to the gaining of economic surpluses through which the community's needs for health and education can be met. The provision of services and industries is interrelated with settlement scale and is a reason for urban enlargement. The social structure progresses from the family to the community in a like manner. It is now realised that the ecological system, though having a degree of elasticity, can be adversely affected by irreversible changes, particularly those involving soil and water. The balance between social and economic factors is an important consideration in social stability. The growth of the larger settlements is seen in the context of limitations imposed by agricultural technology and the problems of urbanisation are noted.

The perception of problems is an important issue in human settlements. Absolute physical deprivation may be apparent but deterioration from sound ecological principles may be less easy to

detect. Apparent or otherwise, these problems may be ignored. The problems of settlements in developed and less developed countries are largely dictated by the availability of resources related to settlement size. Even in the developed countries, the present resources available are not sufficient to remedy many of the problems which have arisen. Population distribution in Commonwealth countries reflects the universal pattern where urbanisation is taking place at a significantly faster rate than overall population growth, with the larger cities generally growing faster than the smaller towns. These changes in population distribution are largely negative, arising from the lack of services and employment in rural areas. Problems within settlements are discussed, particularly relating to such aspects as land values and shortages, housing problems, unemployment and other social problems, the shortage of financial and administrative resources, the inadequacies of infrastructure and natural climatic and seismic problems where man has less control. Examples of these problems are drawn from Commonwealth experience.

The strategy of conserving existing scarce resources, by the holding of consumption to a minimal level and of identifying and utilising resources which are underutilised, is acknowledged. Land is seen as a key resource and note is made of government efforts to secure a more equitable distribution of land within the community. The management of water resources plays a vital part in settlement planning, and the conservation of water resources as an integral part of land use policies is essential. Some developments in the conservation of energy, and the development of alternative forms of energy sources for settlements are noted. One of the most underutilised resources is that of the people themselves, and more ways should be sought of encouraging self reliance. There is a shortage of skilled manpower which requires concentration on training programmes and more efficient ways of deploying scarce staff at national and local levels. Changes are needed to reform the types of settlement management administrations from traditional hierarchies to more responsive forms and there is a need to rationalise the numerous laws relating to settlements. The co-ordination of settlement policies is essential at national level. Many of the Commonwealth countries are now taking a broad view of settlement policies and are integrating social, economic and spatial objectives in their national and regional plans. Governments should take a close look at the standards which are applied to the development in settlements to ensure that they meet the real needs of the people. The gap between the often paternalistic attitudes of administration and objectives of public participation must be bridged. This issue is regarded as being the highest priority. The problems of human settlements and approaches to solving them rely heavily on the values and attitudes of the community

The report recognises that central governments must play the key role in achieving a proper balance between the urban and the rural areas. Although the continued growth of our towns and cities may sometimes appear inevitable, much more could be done to deploy the underutilised resources of the countryside within an ecologically balanced framework. Short term economic growth generally induces settlement growth, but this should be carefully weighed against long term social and environmental costs. There are two complementary and interdependent policies used by Governments to arrest the growth of the major cities. The first approach is to decentralise growth by inducing secondary and tertiary industries away from the larger urban centres. The second and perhaps more fundamental approach is to develop an improved rural infrastructure based on policies of agricultural land development. The success of Commonwealth Governments in implementing both these policies is traced through strategies ranging from new town development in the United Kingdom to the Ujaama Villages in Tanzania. Special attention is paid to rural community development, appropriate aid and land ownership.

The standards of housing stock vary considerably between the countries of the Commonwealth. In the more developed and urbanised countries, housing demand is generally met by the provision of dwellings for sale or for rent, whilst in the less developed countries, a considerable proportion of requirements is built by organised and spontaneous self-help methods. The continued growth in population in some of the less developed countries has caused a gap in the provision of housing which will deteriorate in the future. Many measures have been introduced by the various Commonwealth Governments to make housing available to more people. These include new legislation, the encouragement of owner occupation by the provision of special mortgage facilities, more emphasis on rural housing requirements and the use of locally produced building materials. Today more emphasis is being given to encourage self-help projects, and an example is quoted of how the government in Guyana is assisting housing co-operatives. Special attention is given to methods of gradually improving squatter settlements. Adequate security of tenure and the provision of a basic minimum of services is a first prerogative. Consideration should be given to appropriate building standards for these areas to allow gradual improvement. The sanitation in these areas is recognised as a major problem, and the need to extend health services so that they are available to all sections of the community is recognised. A few of the special problems which the migrant from the rural areas faces in his new urban environment are mentioned. The provision of new housing areas should be considered in relation to

other key requirements such as transport, employment and social services.

Five studies with which the Commonwealth Human Ecology Council has been involved are considered. The first, from Malta, illustrates the approach to settlement problems which must be made on a small island where, because of the scale, attention must be directed to all land uses — urban, rural, conservation areas and wastelands — in conceiving a settlement policy. Auroville, in India, is a unique 'alternative' approach to settlement development. An illustration also comes from Bangladesh on how a non-governmental group has helped a village tackle some of its development problems. Finally some aspects are recorded both of the Hong Kong and Auckland case studies from contributions and discussions at the Second and Third Conferences on Development and Human Ecology in 1972 and 1975 respectively.

The rapid development of all forms of global communication has brought about an increasing spread of information, ideas, values and attitudes. Whereas the need for international co-operation is essential in dealing with the problems of human settlements, some negative effects of the transfer of technology, values and aspirations between nations are observed. These effects are particularly apparent in the larger cities. There is a growing awareness that many of the existing and projected global problems are attributable to high population growth rates, that in consequence a substantial review by Governments and international organisations on the use and deployment of the world's resources is needed. For example more attention needs to be given to the ways in which settlements can be planned and policies implemented to conserve forms of energy dependant on the use of fossil fuels. It is envisaged that more international aid will be needed to deal with the most urgent settlement problems. Attention must be given to ensure that aid is both timely and appropriate with more awareness of the differences in values and culture between nations. Generally, education at all levels needs to be directed towards a greater awareness of settlement problems, at both national and international levels, as part of a programme to extend individual horizons of social responsibility. International research is needed on many aspects of human settlements aimed at co-ordinating national research programmes and identifying the gaps in knowledge about world and regional issues.

Non Government Organisations have a special role in helping to create an awareness of settlement problems and in mobilizing public opinion on these issues. CHEC and the Joint Commonwealth Professional Associations seek to extend their linkages between Commonwealth and Non Commonwealth countries, and to extend their comprehensive

studies of communities to stimulate individual creativity, to co-ordinate research and education, and channelise resources to deal with settlement problem issues. The need is recognised for a more organised and sustained form of co-operation between government and non government organisations. CHEC and the Joint Commonwealth Professional Associations look forward to finding more opportunities in the future to give support to the works of the Commonwealth Secretariat and the United Nations Organisation and its agencies.

RECOMMENDATIONS

The following actions are generally recommended for member governments:

1. Due attention should be given to the need to integrate national policies for society, environment and resources.
2. The need should be recognised at all stages for more and better communication between policy makers and with the public as being paramount.
3. Policies should be prepared for human settlements at national, regional and local levels.
4. Strategic guidelines should be incorporated for settlements at a national level as part of comprehensive land use and planning policies.
5. All policies for settlements should be prepared and implemented according to ecologically sound principles.
6. The objectives of settlement policies should be based on an appraisal of real human needs, priorities and aspirations attainable within an appropriate time scale and available resources.
7. Settlement policies should be based on a knowledge and understanding of the inter-relationship of a wide range of objectives.
8. The need to prepare policies over both long and short term periods should be recognised.
9. All settlement policies must be seen as a learning experience with a continuing adjustment of policies in the light of experience.
10. Settlement policies should where possible encourage self-reliance by promoting self-help projects and community action, based on indigenous skills, resources and traditions.
11. The information on which the planning policies of many settlements are based should be more freely available and more attention

given to the regular collection and use of information relevant to settlement policies.

12. Land should be recognised as the fundamental and finite resource for all human activities including settlements, and adequate controls on land are necessary in order to make the essentials of shelter and settlement services available to all.
13. The interrelationship of settlements and other land uses should be recognised and settlement planning policies based on balanced and ecologically sound land use pattern.
14. Decentralisation and rural development policies should be undertaken only when a knowledge and understanding of real needs are realistically framed to avoid wastages.

Generally the Joint Commonwealth Associations emphasise the need for the following activities:

15. Education at all levels should be aimed at a broad ecological approach with more appreciation given to the many aspects of human settlements and settlement policies. The importance of active participation of the young is particularly stressed.
16. More research on human settlements is required with adequate resources for this to be made available by international and national agencies.
17. More international assistance is needed to train local staff in all aspects of settlements in the foreseeable future.
18. Government and non government organisations should undertake more research on the reasons for population movement.
19. International aid appropriate to the needs of the people is recommended which may well place less stress on capital intensive projects and more on engendering a spirit of self-reliance.
20. Further efforts in setting up inter-disciplinary task forces and other alternatives are advised at an international level to help with natural disasters and urgent settlement problems.
21. A United Nations Commitment to a basic declaration of Human Rights in relation to land, water and shelter with a charter for housing to include relevant standards should be considered as a basic minimum for human existence.

1 INTRODUCTION

Human Ecology is the understanding of the principles of the fundamental relationship between the individual person, his community and the environment, which are necessary for the achievement of human well being. Settlements are a salient feature of the human ecological scene and are so vital an aspect of the whole that the Commonwealth Human Ecological Council has been inspired to take a lead in drawing together skills from a wide spectrum of professional practice in order to present a consensus of considered opinion to HABITAT. CHEC's initiative as a co-ordinator in this way derives from the purpose and activity of the Council itself and its privileged position as the non-governmental organisation representative of Commonwealth interests to receive formal recognition by the United Nations.

The purpose of CHEC is to bring together men and women from the academies, the professions, and the world of government and commerce, in order to understand the implications of human ecology for the improvement of the quality of life. Historically the activities of the Council were exclusively with Commonwealth countries, but of late a wider international interest has arisen. The practical aims of the Council are to help to promote the formation of groups from the universities, professions and governments in the Commonwealth and other countries to influence government policy wherever it affects the human environment and the human dimension of living. Each group is formally associated with the Council and it is a further purpose to facilitate the interchange of opinions among the respective groups and to help them to work together in a world forum of ecological opinion, both with each other and with other international bodies. Associated with this administrative objective, CHEC provides a current and continuing information service on human ecological matters and acts as a special guide to the groups and other interested bodies concerned to find suitable academic centres for human ecological education. It would have been almost an act of default, therefore, if CHEC had not called together representatives of the professions throughout the Commonwealth in 1974, and to initiate an ad-hoc group from the Joint Commonwealth Associations to prepare a submission to the HABITAT Conference.

CHEC has been closely concerned with HABITAT from the outset. It convened a meeting of Commonwealth Ministers and their representatives at the United Nations Conference on the Human Environment at Stockholm in 1972 and the

meeting decided that CHEC should organise a Commonwealth Conference on Human Settlements, which was subsequently held in Auckland in November 1975.

On the constitutional level, CHEC's non-governmental status with the United Nations is a means by which formal approaches could be made at government level to individual countries to obtain from them their considered opinions about the aims and purposes of human settlements and how governmental attitudes are related to human ecological ideals. In this way the special skills of the professional Associations which by themselves had no direct link with the United Nations Organisation could be brought into the United Nations complex to benefit indirectly from its administration. Looked at in another way, it is through the activities of CHEC that the individual governments are brought into touch with the consensus opinion of the professional Associations and others who have made this joint contribution to HABITAT.

This Report is the outcome of many months of study, discussion and organisation. It aims to bring together not only contributions from a variety of professional skills but to synthesise some of the activities and views of the Commonwealth countries which have been submitted to the HABITAT Conference.

The Commonwealth forms a convenient grouping of countries within which human settlement problems at all levels of need can be usefully considered. Geographically it includes some of the world's largest as well as smallest communities, ranging in climate from polar to tropical regions. The human settlements vary in size from the smallest and simplest type villages to some of the largest and complex urban agglomerations in the world. The Commonwealth, comprising one fifth of the world's land area and a quarter of the world's population, has unique shared ideals and traditions of successful collaboration within the international context, especially as a practical example of institutional and international co-operation.

The Report, which is the main background document of the Commonwealth contribution at the HABITAT Conference and Forum, emphasises a number of key requirements in developing future policies and action in relation to the ecology of human settlements, and in particular to planning, management and education for settlements, the urban-rural balance, shelter and international co-operation.

2 ECOLOGICAL BASIS FOR HUMAN SETTLEMENT

2.1 INTRODUCTION

This chapter records the important basic features related to human life in an ecological context. It is looked at through the eyes of persons, as individuals, members of families and of human society. In each part, criteria are designated at various levels, starting with the worst aspects of human existence found in many developing countries and progressing through to improving levels of the human environment to those more characteristic of developed countries. Comment is made of situations where the quality falls due to surfeits, for example in food, cars and other features related to high energy and material expenditure.

The various sections of this account are closely related and must be considered as interdependent. This is the norm wherever ecological considerations are discussed.

The purpose of discussing human settlement is, of course, to determine how a reasonable quality of life for the people living in them can be achieved. Thus there is concern that the people in human settlements can provide themselves not only with shelter, but also with food and water, and that there are opportunities for creative work and for an adequate social organisation in a balanced ecological arrangement.

2.2 BASIC CRITERIA FOR SHELTER, FOOD AND WATER

There are two basic requirements before all others which must be satisfied before life for a human being could possibly be considered to have a measureable quality. These two requirements are adequate shelter and adequate food and water.

Shelter makes a direct contribution to human health in affording protection from adverse environmental conditions and providing facilities for rest and sleep. Shelter has a further important function in that it constitutes the physical basis of social structure; family and extended family units are contained within dwellings and compounds.

Dwellings are of very variable quality; at the lowest level of extreme poverty, physical resources may be insufficient to provide any shelter at all. Such a degree of deprivation is usually associated with a minimum of adequate clothing. This may well be a reflection of an inability or of insufficient will to

get shelter possible due to, for example, malnutrition. At the next level, one finds the provision of a shack or shanty or other makeshift shelter for a family. This is often of the crudest type, being no more than sufficient to define territorial limits to social units and some protection from the elements, and certainly having no services. At this level, clothing is also minimal. Proceeding up the economical scale, one can identify purpose-built but simple shelters. These will still normally have no services in them except for the availability of a communal standpipe and latrine.

Above this level, shelter can more clearly be identified as housing, purpose-built with services such as running water and an internal toilet linked to main drainage. At higher levels of affluence an increasing level of comfort is provided but it is also related to a vast increase in expenditure of energy and materials, the latter often non-renewable.

A satisfactory quality of life depends on an adequate amount of water and a balanced diet. The lowest level is where both are inadequate in quantity as well as quality. As food becomes more available quantity tends to be satisfying but diets are often unbalanced and lack essential items, especially protein, vitamins and minerals. Where possible there is a tendency to make up for the inadequacy in quantity by adding an excess of carbohydrates which are often more easily obtainable. Adequacy of diet comes when the various constituents are available in sufficient quantity and balanced proportions.

In affluent countries the amount of food is frequently in excess of the subsistence level in quantity. One effect of this is that even where the diet is unbalanced sufficient of all the necessary dietetic items are present. On the other hand it is well known that too much of certain foods can cause ill-health, such as carbohydrates, especially "refined" sucrose.

The great majority of people cook at least a part of their food. This has two consequences. The first is a dietetic one in that cooking can destroy certain essential items in the diet, such as some vitamins, and thus health can be at risk. On the other hand food is sterilised and made more digestible, especially dried foods. The second point is that in order to cook, fuel is required which is likely to be of natural materials such as wood. Adequate supplies may be difficult to obtain in certain circumstances such as in open cultivated areas or in urban situations. The almost universal drinking of fermented liquids is beneficial for the dietetic value of yeasts, and aseptic properties of alcohol, as well as its social contribution. Conversely it may lead to the excesses of alcoholism.

Inadequacy of diet may be due to any of a number of factors. An important one is, of course, poverty, in that the people concerned are unable to purchase food. Often related to this is the inadequacy of the local agriculture. This may be due either to inappropriate technology or to natural disasters such as drought or disease. In towns and cities the tight aggregation of dwellings leaves little enough scope for the growing of any food. Inadequate diet can also be caused by dietetic inflexibility which may be a reflection that traditional kinds of food alone are acceptable. Lastly, and probably as important as any of the others, there may be too many mouths for too little food because of the increase in population outstripping agricultural production.

2.3 WORK AND CREATIVITY

For the vast majority of adult human beings work and creativity are basic needs. It is necessary primarily to obtain food and water for direct consumption. Water is also needed for cattle and domestic animals, and for crops, and often special methods of regulation, such as irrigation, are needed in that context. It may be used for the production of fish protein and mechanical energy and provide an efficient means of transportation.

A further primary application of work and creativity is for producing building materials and creating dwellings from them. In the same context of environmental control is the production of clothing. Work and creativity have a direct and beneficial effect on individual people in the development of physical and mental health and in the satisfaction and dignity of achievement.

While individuals satisfy their own needs in this way, they also do so for the sake of their families. When the family's needs are met any surplus becomes available for exchange within the community. The community benefits from the variety of products from individuals and their families; while this contributes to a stronger social adhesion, division of labour tends to be divisive. In many instances other basic resources and materials (biological and geological) may be made available and new basic wealth may be introduced into the community. This is the starting point for developing science and technology. Production in excess of family, or indeed, of community requirements can lead to two further types of work, those of the entrepreneur and the co-operative.

As further capital accumulates, development of communities and settlements evolves in two parallel directions. The first of these is the creation of secondary industry where the value of individual expertise is added to that of the basic materials of primary industries in the creation of a new range

of articles, more convenient sources of energy and other services.

The second parallel development is the creation of community organisation and services. The first in importance results from the almost unconscious identification of the need by a community for a meeting place where people gather for social, ceremonial, religious or political activities. As the standard of living of communities is raised this focus becomes the place for built structures for all such activities and where, in addition, health and educational facilities become available.

The pursuit of good health is an ancient and forceful activity of the human being. In many developing countries modern drugs are replacing traditional treatments and, in more affluent societies, complex hospital and general practice arrangements are in ever increasing demand. One of the many results of this pressure is that medical technology is commonly outstripping the ability of people to pay for health services.

A further kind of community development is the provision of educational facilities. The most simple kind of school limits its activities to community affairs and the identification and use of local resources. With increasing wealth, literacy, numeracy, science and technology, languages, history and the arts are added progressively and to the school curriculum, with corresponding increases in education costs.

Both medical and educational services provide work for community members, and all such developments play some part in the quality of life. Thus the desires of more and more people are to move to urban communities. Urban expansion is the result and when it occurs too rapidly the complex system may become disorganised, as it comes under increasing strain, and in consequence environmental quality decreases.

2.4 SOCIAL ORGANISATION

The development of social organisation goes largely hand-in-hand with the processes described above in relation to work and creativity and to community development. Thus the social structure starts from the biological and social needs of the family and progresses to the common community requirements. The formation of a community decision-making group is founded early and evolves into more complex ramifications of government; this occurs at different levels and covers different geographical areas.

Whilst all this comes as part of the attempt to create forms of organisation to moderate and direct human life, it also creates new problems.

For example, communication between government and governed becomes more complex and difficult, and in particular, public participation, becomes less effective. Modern techniques enable an ever increasing volume of information to flow out from the centre but in so doing, tends to overwhelm the individual's chance to be heard.

2.5 ECOLOGICAL STABILITY AND ELASTICITY

It is now a conscious aim of most of the human race to be increasingly able to control the environment and to maintain the various parts of the human ecosystem in a reasonably stable state. The system has a degree of elasticity in that pressures put upon it have, in the main, produced changes that are reversible. No ecological system is infinitely elastic and it would be a serious matter if irreversible changes became extensive.

By far the most important resources are fertile soil and water. It is essential to husband the soil so that it can continue to produce food. But the land is also important as the substratum for dwellings and other built structures and when so used cannot be used for food production. Thus there is an immediate requirement to balance the use of land for housing and for food production and water collection. The use of land for these purposes must be maximised and this is largely possible only through the most stringent and careful planning of settlements.

A further aspect of urban-rural ecological relations is that it depends on the careful recycling of waste materials, both biological and non-renewable (but in different ways), and the avoidance of pollution and dereliction, leaching and erosion.

While recognising that the maintenance of fresh water supplies for man and crops is paramount, it must also be recognised that the achievement of adequate supplies is one of the major problems of mankind. Flood or drought conditions afflict large areas of the world. Often the two alternate seasonally.

Tied in with the maintenance of ecological stability is social stability. From the many aspects of this which have already been mentioned the achievement of a sensible social and economic balance between individuals, families and social groups is clearly an important goal.

Among the many problems involved in achieving stability, one of the most difficult is that of land tenure in relation to land use. This problem is made more vital and complex, as indeed are most other problems of human ecology, by the increasing population of the world. In a more local sense the

drift of people to the cities accentuates the urban population problem and the depopulation of rural areas may accentuate the problem of world food shortages. The development of capital intensive technology added to these, widens the under-employment and unemployment problem; it also brings ever nearer the depletion of certain of the world's geological resources, such as metals and hydrocarbons.

2.6 SETTLEMENTS

The foregoing sections outline some of the more important external factors which affect people's lives. The manner in which these factors are involved is related to the quality of human life. But HABITAT is specifically about human settlements and it is therefore proper to focus a little more closely on this feature in the totality of human ecology as a starting point to more detailed consideration in later chapters.

At first sight 'settlement' gives an idea of randomness but doubtless the vast majority of settlements have arisen at sites of natural advantage to the human condition. As the concepts of advantage and disadvantage change continually, the definition of a settlement is particularly difficult. Nevertheless, it may be taken as being largely a stable human community with its associated natural and man-made environments. A settlement may be anything from a collection of a few dwellings to a vast megalopolis; at all levels, the corresponding organisational structure may be rudimentary or complex.

A well-known feature of settlement evolution is the vigorous growth of the larger settlements, towns and cities, partly at the expense of smaller settlements and partly due to their own internal population growth. The small settlements are, by definition, scattered in the countryside and, all too often, the realities of rural deprivation contribute to urban concentration. Agricultural technology sets a limit to the size of population necessary to provide labour for food production in a given area, even for subsistence agriculture. Land productivity must be increased to provide sustenance for the city dwellers and this inevitably leads to ensuring productive investment in agriculture and hence adequate food supplies. However, conventional methods of increasing land productivity also increase labour productivity, and the rural population left without employment augments the drift to town. The larger settlements are able to create wealth from secondary industries, and, thereby, can afford many amenities and centralised attractions that are not readily made available in the rural environment. Hence there are further elements in the attraction of the city.

But a balance between rural and urban societies and settlements is seen to be absolutely essential. This balance will differ from locality to locality and will be critically dependent on local ecological and environmental conditions and on the availability of resources. While the quality of the human environment can be unacceptably low in both rural and urban areas, the problems of improving it are often most intractable in the rapidly growing and industrialised cities of developing countries. High population densities lead, inevitably, to inadequate food and water supplies, poor drainage gives rise to flooding, primitive disposal arrangements for sewage and rubbish create a high disease risk. Such employment as there is, is often in casual ill-paid menial tasks. In these areas, community social organisations increase, but they are often more complex and less cohesive than in rural areas.

Nevertheless, the drift of people from rural to urban areas continues, as presumably the people believe a better life is to be found there. In terms of overall ecological stability, the long-term effect of this drift could be stretching the elasticity of the system towards breaking point.

3 PROBLEMS OF HUMAN SETTLEMENTS

3.1 UNIVERSAL PROBLEMS

Many of the problems of human settlements have now become universal truths to those actively involved in dealing with the diversities of settlement management and community action. Whilst there is little point in producing a long inventory classifying or forming generalisations on problem issues, an overview of settlement problems is of some value. For example, a study of problem issues merits attention in so far as the perception of such issues may be significantly conditioned by the attitudes and values of different cultures. Because of differing needs and changing aspirations, communities may view the relative importance of 'problems' differently. The way in which problems are perceived is of importance, for solutions can only be conceived by a recognition of the various component factors which give rise to these problems, and by appreciation of the relationships between these problems and the benefits of settlement growth.

The emphasis on the problems of settlements in the less developed and the developed countries is largely dictated by the difference in resources. The major settlements in the less developed countries are struggling to provide the basic essentials for human existence against a tide of escalating growth, whilst in the developed countries settlement administrations are more preoccupied with improving their social and physical environment. In the less developed countries, rapid urbanisation has often overtaken the necessary economic growth resulting in considerable unemployment and underemployment. Often the provision of the basic human requirements for sanitation and water are grossly inadequate, and in the worst cases a large proportion of the shelter consists of shacks and slum dwellings.

In the more developed countries, the worst settlement problems are associated with the modern metropolis, which has largely evolved from the processes of urbanisation and industrialisation which took place in a largely unplanned way throughout the 19th and early 20th centuries. Their centres have become increasingly congested, and surrounded by a widening ring of urban blight. Often these cities have sprawled out over the countryside, their suburbs eventually merging with those of neighbouring settlements, and creating an urban mass with inadequate social and recreational facilities, over-crowding, congestion and pollution.

3.2 RAPID URBANISATION

The problems of settlements in both a national and a local context have been seen to stem from the general rate of population growth coupled with an even greater rate of urban immigration. The resultant pressures on the growth of settlements have often been compounded by the assimilation of new cultural ideas and technologies requiring more space and the need for other resources. The rapid growth in the size of urban settlements is a universal feature of the settlement pattern in all countries, including those within the Commonwealth of Nations. For example, Jamaica, Cyprus and Zambia record that the proportion of population living in urban areas in the early sixties had risen from 30 – 37% (1960-70), 35 – 45% (1960-70) and 21 – 35% (1963-74) respectively. In India the rural population increased two-fold in the period 1921 to 1971, whilst the urban population quadrupled in the same period.

In general, the larger settlements are growing at a faster rate than smaller towns. When, in 1960-70, the overall growth of population in Ghana was 2.4% per annum, towns had grown at 3.8%, whilst Accra had grown at 5.6% per annum. Similarly, in Zambia in 1963-69, the national population growth rate was 2.7% and the urban growth rate was 9%, whilst Lusaka, the capital, had grown at 13.4% per annum over the same period. Universally urbanisation appears to be taking place at a significantly faster rate than overall population growth, and the larger cities, are generally growing at a faster rate than other settlements.

The unprecedented growth of the major cities borrows heavily from the future in the form of urban sprawl, squatter settlements, slums, blighted areas, congestion, and irreversible environmental degradation. In Tanzania, the city of Dar es Salaam is five times larger than the next largest town, and is seen as swallowing up a disproportionate amount of investment and manpower, dominating the cultural pattern, and having a deleterious effect on the development of other towns.

The reasons for the continued drift from the rural areas to the towns and cities which is a striking feature of the less developed countries are not fully comprehended. The motives for migration may be seen as simply an adjustment to ecological conditions; outmovements from rural areas being motivated by the perception of improved conditions in the towns and cities. Generally these motivations arise from the wider range of activities in large settlements providing job opportunities, better living standards, social services, cultural amenities, educational and government activities. In Kenya, the reasons why people leave the rural areas include landlessness among young people in

rural areas, unemployment or underemployment, the desire to enter the cash economy, low wage levels in rural areas and the lack of educational opportunities. In Bangladesh in a survey of the squatter settlements in Dacca, Chittagong and Khulna, the Dacca University Centre of Urban Studies and the Bangladesh Institute of Development Studies found that at least 78% of immigrants had moved for reasons of employment opportunities, in Dacca the percentage was as high as 91%. The findings suggest that the reasons for the growth mainly derive from rural problems associated with the agricultural system, the low ratio of cultivatable land to manpower and the very inadequate non-agricultural activities in rural areas, as a result of which the increased labour force arising out of high fertility in rural areas, could not be absorbed and has hence migrated to urban areas.

3.3 PROBLEMS IN SETTLEMENTS

The problems within cities are not readily identified or compartmentalised. Generally the problems in settlements are largely due to overcrowding, where the number and demand for activities exceeds the normal capacity of the physical fabric or the limits of technical, financial or other resources to contain them. The main problems in settlements expressed by the Commonwealth Governments appear to be land shortages which result in high land values, causing particular problems in the provision of low income housing. Despite the pull of the larger settlements as employment centres, there is a growing unemployment problem in towns and there are other social problems, particularly in connection with the transition between the urban and rural way of life. The inadequacies of the financial, administrative and legislative framework are a major concern and among the principle causes of the deficiencies in public services.

3.4 LAND SHORTAGES AND VALUES

The growth of urban areas has often encroached on land of value for other uses such as agriculture or recreation. The expansion of urban areas on to adjoining land is particularly acute in small countries with limited land resources. It is noted in Cyprus, for example, that despite strategies for urban growth, the spread of housing in the periphery urban areas often involves the use of good agricultural land for development. In Trinidad urban sprawl around the capital region is not only pre-empting good agricultural land but also is creeping up hillsides and destroying natural vegetation. Where settlements lie close together the pressures of population growth will often cause them to coalesce, intruding further onto the surrounding land. On the periphery of towns short

term difficulties of land acquisition have often led to unsuitable sites being selected for urban growth. Good potential sites for urban expansion in Mauritius had often been discarded in favour of Government owned land in isolated locations which had no proper access services and amenities. In Fiji, native land ownership of peripheral land around towns has compounded problems of finding suitable and accessible land for low cost housing.

The high value of land in private ownership, both in the inner core of settlements and on the periphery, also causes problems for governments attempting to develop public housing and other essential public land uses. Because of the shortage of land in Singapore, for example, land prices are escalating due to the fierce competition for land for urban expansion and development. An unstable land market and land speculation has produced inflationary trends in land values in and adjacent to settlements, and is a major problem in many countries.

3.5 LOW INCOME HOUSING PROBLEMS

Cities often rely on the service of low paid workers who cannot afford satisfactory inner city accommodation and are faced with the choice of living in slums or living on the fringe of the city at a distance from their place of work. This phenomenon has meant that high travelling expenses are often incurred by those who can least afford them. The shortage of land in and around larger settlements is one of the main problems in the provision of low cost housing, the scarcity of serviced urban land creating accelerating rises in land and housing prices. In the less developed countries a crisis situation has to be faced due to the backlog in housing provision which results in inadequate forms of housing, overcrowding and the absence of adequate services or firm tenures. In Colombo, Sri Lanka, there are of the order of a quarter of a million people in 30,000 slums and shanty dwellings. In towns, high densities and the inaccessibility of cheap traditional building materials add to the cost of shelter. Rents for urban accommodation are high. For example, in Nigeria, the average urban worker often has to pay as much as 40% of his income in rent. In the major urban centres in Bangladesh the slum dwellers, who are found to be nearly all of rural origin, live in oppressive, overcrowded accommodation without access to the most essential community services.

3.6 UNEMPLOYMENT AND OTHER SOCIAL PROBLEMS

Unemployment and underemployment are chronic problems in the urban areas of the less developed countries and can be seen as being both wasteful of

resources and a cause of social malaise. According to one estimate at least 15% of the urban labour force of Bangladesh were unemployed in the late sixties. The problem has escalated further because of the increasing number of immigrants into urban areas. Nairobi is faced with rapidly increasing unemployment with a slow rate of job creation in the urban centre. A considerable number of new migrants do not find immediate employment and remain for long periods without a job or become permanently unemployable.

Several countries (Zambia, Trinidad and Tobago and Tanzania) note the discrepancies between housing for high and low income groups which is seen as an aftermath of the days of colonialisation. The widely varied nature of the urban population, and the divisions and segregations in which income variations play a significant part, are evident in the contrasts between the exclusive residential areas and the slums. In Nairobi the slum clearance schemes were seen to have a deleterious effect on the social fabric which had developed.

Urban areas often attract a variety of social groups forming a more varied community than hinterland rural areas. Kenya reports that the urban areas are seen to be 'melting pots' of ways of life and culture leading to a modification rather than an erosion of traditional morals and lifestyles. The cultural change between the rural and the urban way of life is one of the problems which besets the immigrants to the urban areas. In the smaller countries where the primate city exerts a strong influence, this problem is minimised. Trinidad, for example, notes a strong interdependence between Port of Spain and other areas, exerting a high degree of homogeneity in values, behaviour and aspiration. Similarly because of the proximity of towns to rural areas in Jamaica, those living in the country are well versed in urban life.

3.7 SHORTAGE OF FINANCIAL AND ADMINISTRATIVE RESOURCES

There is a growing gap between the scale of urban problems and the finances available to deal with them. At an individual level the gap between income and costs of shelter is particularly noticeable in the lower income groups. The Australian Government are concerned about the rise in the price of serviced land, materials, labour and housing finance in relation to average income, which is seen to create a new situation of need. In the less developed countries the cash flow and management resources of settlements of all sizes are too inadequate to enable local authorities to carry out improvements, particularly in smaller towns and villages. A large proportion of the population in the rapidly growing settlements is young and economically unproductive, a factor imposing additional

burdens on resources for essential educational or health facilities. Generally, the standard of local administration in settlements is low and there is a universal shortage of skilled staff.

3.8 DEFICIENT PUBLIC SERVICES AND UTILITIES

The provision of elementary services (particularly the supply of safe and adequate water supplies, sanitation, and basic health and education services) is a matter of primary concern in the less developed countries. Although public investment programmes are being prepared to improve conditions, the problems of water supply and waste removal are particularly serious, and the gap between supply and demand is often widening. There is no town in Nigeria, for example, with a central sewerage system, and in other less developed countries, where often very partial sewerage systems are provided in the larger towns, treatment facilities are generally inadequate. The supply of potable drinking water to rural settlements is a particular problem and the lack of properly treated supplies have contributed to the spread of many gastrointestinal diseases. Several countries note increasing traffic congestion in town and the inadequacy of public transport systems.

3.9 CLIMATIC AND OTHER NATURAL HAZARDS

Many of the settlements within the Commonwealth are subject to a wide variety of natural hazards, including floods, cyclones, storms, erosion, seismic disturbances. Particular attention is drawn to the great tragedies following the floods in Bangladesh which have devastated many settlements and the destruction of the city of Darwin by Cyclone Tracy. Lessening the problems associated with the affects of such disasters requires vast resources to plan and implement flood and other control schemes, to construct and organise early warning systems and to absorb additional building and infrastructure costs. Sites for the future development of settlements in disaster prone areas should be carefully selected to avoid areas of high risk.

4 APPROACHES TO PROBLEM SOLVING

4.1 A GENERAL STRATEGY

In the past, solutions to urban problems have been mainly propounded on the expectation of more growth, more money and more technology. Increasingly, it is being realised that these types of solutions can no longer be looked upon as the only methods for improving human settlements. Even in the most highly developed countries, the magnitude of the problems is such that the available resources are not sufficient to check a gradual deterioration in the environment.

There is an increasing realisation that in the future, policies for human settlements should be based on the conservation of scarce resources and the prevention of waste; substituting wherever possible these resources which are plentiful for those that are scarce. For example, at the Regional Preparatory Conference for HABITAT in Tehran, the need to preserve land resources was recognised and the conference concluded that the objectives of all human settlement policies should be to restrain the conspicuous consumption of resources with a view to preserving the quality of life in the future.

In Auckland, where the Commonwealth Human Ecology Council staged a Preparatory Conference for HABITAT last November, these particular themes were discussed and elaborated. Many submissions prior to and during the Conference viewed and initial approach to the problems of human settlements as requiring a combined strategy of conserving existing scarce resources, whilst at the same time identifying and utilising resources which might at present be underused. More emphasis needed to be placed on making the benefits from these resources available to all. New attitudes were seen to be needed in managing human settlements involving more comprehensive approaches and greater and more informed dialogue between the decision makers and the rest of the community. This Chapter examines these propositions, whilst the equally important role of international influences and communications in improving settlement policies is discussed in Chapter Eight.

4.2 LAND RESOURCES

Land is the key resource which is crucial to the development and improvement of human settlements. With rapidly growing populations, rising consumer demands, and more complex ways of living, the pressures on land increase. It follows, therefore, that land must be put to the use to which it is best suited and assessments made of present

and future requirements for land for all forms of human activity, and a spatial framework designed — in accordance with broad ecological principles — within which this activity can take place. In many countries the scarcity of land in and around settlements is reflected in the high costs involved in changes of ownership. Significant capital gains can be made where there is no control of land speculation, with the result that often high costs have to be borne by Government in acquiring land for essential services or for low cost housing.

The necessity to make the best use of land for the well-being of the community, has brought about the instigation of policies directed at the centralisation of land control in Commonwealth countries. For example, in the Fourth Five Year Plan in India, the Government recommended large scale acquisition and disposal of land in and around cities. Both Sri Lanka and India have instituted land assignment schemes in rural areas in favour of landless agricultural workers, which has led to the establishment of small village communities. In Australia, programmes are being introduced in the form of a Commission of Inquiry into land tenure, land commissions and development corporations, with a view to securing land use objectives and the stabilisation of the land market. The Community Land Act in the United Kingdom provides the necessary powers for local authorities to acquire land to meet the needs of development up to ten years ahead. Land Acquisition and Management Schemes are being prepared by local authorities for approval by Central Government.

One particular aspect of land policy, particularly significant in the United Kingdom is the concept of land reclamation or land recycling. As settlements develop replacing biologically productive land by urban uses, land may be required for industrial buildings, storage areas, auxiliary service areas and often waste disposal areas associated with industry. As a living environment, the area becomes degraded (not only by the areas for waste disposal but also due to aerial and water pollution, visual loss of amenity and noise). Ultimately, this may be followed by the run-down of commercial and industrial activity and the increase in frequency of dereliction. In a sense, this completes the downward spiral.

For recovery to take place, the area needs environmental inputs to reclaim the derelict land and for environmental improvement to take place. Reclaimed land can then become biologically productive (used for agriculture, or forestry) used for amenity (picnic areas, open space) returned for residential purposes and even for new industrial development. The upward spiral begins and in a very real sense land recycling has occurred.

4.3 WATER RESOURCES

The management of water resources plays a vital part in planning human settlements, particularly in the less developed and arid regions of the world. In many of the developing countries, the provision of safe and adequate water supplies to all of the population is not likely to be achieved in the immediate future. For example, the Kenya Government's long term goal is to bring the benefits of water to the total community in sufficient and suitable quantities both for domestic and livestock consumption, by the year 2000. Tanzania intends to provide water for everyone by 1991. The Nigerian Government's aim is to ensure that all communities of over 20,000 people are supplied with water by 1980. In the less developed countries, water supplies are often untreated and pose serious problems to personal health. Water supply schemes, particularly those drawing surface water, cannot be considered in vacuo, but need to be part of a comprehensive policy of land and watershed planning and management aimed at conserving and improving the land and preventing pollution and conserving natural habitats. Today the conservation of natural water resources is regarded as critical by most governments. In view of the shortage of water in human settlements in many parts of the world, it is necessary to consider ways of controlling wastage by recycling water supplies, by metering and pricing policies, and by restriction to intermittent supplies only.

4.4 ENERGY CONSUMPTION

The present day functioning of modern cities relies on the consumption of energy converted from non-renewable sources. Many of the metropolitan areas generate an artificially warmer climate because of the wastage of heat energy. Energy is expended in constructing and maintaining the home and other communal facilities, particularly in the developed countries and the cooler climatic regions. Considerable energy is expended on travel within and between settlements. A new approach is needed to limit the consumption of energy from fossil fuels and to equalise its distribution. For example, there is a need for existing and new human settlements to be supported by transport systems that provide no more than adequate levels of accessibility for the whole community.

Recently, the concern over the ecological imbalances which cause energy wastage and the need to derive energy from alternative sources has led to the development of a variety of projects concerned with shelter and settlements. For example, in the Commonwealth, the Autonomous House research programme being conducted at the University of Cambridge in the United Kingdom has built up a very sound, broad theoretical base on which it is

hoped to proceed to the construction of a completely self-serviced, wind and sun powered experimental house, which has already been designed and tested in model form.

Further along the road to physical realisation is the "Ecol Operation" in Canada at the School of Architecture, McGill University, in collaboration with the Brace Research Institute. This programme has already produced a largely self-sufficient, habitable, low-cost house, and has extended the concept of material recycling to the building itself.

Also in Canada, a system has been incorporated experimentally in a block of apartments in Toronto, which recycles all water, and uses all solid waste to provide heat.

4.5 HUMAN RESOURCES

In recent years the policies of governments in the less developed countries have been increasingly aimed at using the most important and most plentiful of their resources, that of the population many of whom are underemployed or unemployed. In order to tackle basic problems of shelter, there has been an emphasis on promoting informal and self help methods, by using the time, initiatives, time, energies and ambitions of the people themselves. Generally, people have the knowledge and skills and the very limited physical resources to enable them to build their own shelter. However, self help schemes require institutional changes, land acquisition and the provision of minimal services. Motivation is often dependent on a degree of security of tenure over land. Even in the developed world, the conventional methods of dealing with problems of the built environment are not wholly effective. The nature of the deficiencies thus experienced should encourage and help others to develop solutions which are relevant to their situation. There are many instances of self help projects in the Commonwealth countries, some of which will be discussed in Chapter Six.

4.6 SKILLED MANPOWER

The failure to implement policies for human settlements in a comprehensive manner is at least in part attributable to the lack of staff resources in administration and management. Pressures of dealing with the day to day tasks have prevented staff from adopting effectively new approaches. The consideration of broad plans or policies has often had to take second place to the minimal approach of maintaining essential services.

Generally, in the less developed countries, training programmes for manpower personnel are inadequate. There are only six town planners in Sri Lanka for example, although a post-graduate course

has recently been set up at the University of Sri Lanka. In view of the limited number of planning professionals available in many countries, they should be concentrated at the national level where they can make the most effective contribution, whilst still assisting in the preparation of regional and local settlement plans. Many of the less developed countries have relied on technical assistance from the developed world in the preparation of their policies for human settlements. Although continuation of this co-operation is essential, the emphasis for the future must be on the need for local staff appropriately trained to deal with problems on a pragmatic basis in each locality. Often personnel, trained in either their own country or abroad, can be lured from the public sector to more lucrative private employment, thus exacerbating staff resources in management. In the same way there is a tendency for trained professionals to migrate to more developed countries where the work is more organised and the rewards are greater.

4.7 FINANCIAL RESOURCES

The shortage of skilled and efficient staff in settlement management also affects the potential of settlements to raise funds for essential works. In many countries, only a small fraction of the potential source of funds is realised. New and existing revenue sources often remain untapped which could be used to deal with human settlement problems. Ineffective rating administration and valuation, the total absence of suitable appeal machinery, the lack of personnel training and the obsolete nature of many settlement laws are among the obstacles which prevent the exploitation of these revenue sources.

4.8 THE MANAGEMENT OF HUMAN SETTLEMENTS

The distribution and growth of human settlements is a major and vital element of the total development process and must be planned and controlled. If urbanisation is to be allowed to continue to play its rightful role as an instrument for social, cultural and economic development, the growth of major cities should be retarded, and this should be coupled with an emphasis on policies for developing the rural areas. Such policies can only be brought about by government intervention and whilst attempts are being made by governments to co-ordinate development in the urban and rural sectors there is a general need for a wider perspective in dealing with both the internal problems of settlements and strategic national and regional problems of settlement policy. Few government planning strategies have succeeded in adopting a totally comprehensive approach to these problems.

Decisions on human settlements should not be based on a limited benefit/cost analysis but on a more complete analysis of social and environmental objectives. The need for a change in the management attitudes is desirable away from the isolated sectoral approach to an integrated approach.

Human settlements, and particularly the larger cities, are complex in their nature and require a comprehensive approach in order to create effective policies. Administrations based on corporate management may be required to co-ordinate the various professional skills involved in dealing with their problems.

Most Commonwealth Governments acknowledge the need to integrate settlement policies in a comprehensive manner, but often the gap between the awareness and the realisation of such a policy is still apparent. This is largely due to several factors, inadequate legislation, the obsolescence of laws and administrative structure, the difficulties in integrating policies, and conflicting priorities reflected in the complexity of the administrative staff. There is a need for governments to become aware of these deficiencies and to improve their administrations and legislative framework. For example, the Zambian Government favour rationalisation of the responsibilities of various Ministries to solve problems caused by the overlapping of functions and responsibilities which in the past have proved so awkward, confusing and wasteful of time and resources. Whilst pointing out that the real difficulties lie not in the awareness of these goals, but on implementing such policies in an 'on the ground' situation, the Jamaican Government sees the need to deal with the problems of settlement management in an integrated yet comprehensive manner.

4.9 NATIONAL AND REGIONAL PLANS

The Position Paper at Stockholm suggested that every country should have a National Environmental Plan based on appropriate environmental policies. Such policies would include a general identification of settlements, together with the setting up of appropriate basic per capital environmental standards relating to homes, work, recreation and other basic environmental requirements.

Although most governments are incorporating economic, social and spatial objectives in their national economic plans, too much emphasis is still placed on the securement of economic objectives. The lack of knowledge of interest in the total implications of spatial and social problems leads to difficulties in appreciating the casual relationship between decisions and actions.

The need for an economic planning unit to co-ordinate the development proposals of various

ministries and agencies has long been accepted by many Governments, but a complimentary social and environmental planning organisation to advise on the physical implications of development policies at a similar level is also essential. The implications of settlement growth must first be viewed at a national level and the implications of settlement growth in relation to other land uses requires careful study at this level. Many Commonwealth Governments are working towards this goal. Trinidad and Tobago have outlined a basic approach to integrate social and economic organisation with environmental planning in their third five year plan. The need to integrate regional economic organisation in co-ordination with environmental plans for the country's regions in Tanzania is accepted. Whilst there is not yet integration of the National Human Settlement Policy and the National Development Policy in India, attempts are being made at a regional level to integrate economic organisation and environmental plans.

The smaller Commonwealth countries have been probably most successful in an approach to comprehensive planning. Limited land area, relative homogeneity of environmental and social characteristics, and centralisation of administration all contribute to facilitating a comprehensive view of national policies. Cyprus, Ghana, Jamaica, Singapore, Mauritius have prepared or are in the course of preparing, environmental planning strategies for their countries. In Bangladesh, a UNDP National Physical Planning Project has been set up from which it is hoped that a methodology for integrating economic organisation and environmental planning will emerge. The difficulties of integrated policy making are evident in the larger countries. The diversity of regions resulting in the complexity of the administrative and legislative structure can be seen to militate against a totally integrated approach at a national level.

In the United Kingdom, settlement plans prepared by local administrations are co-ordinated by Central Government. There is no national environmental plan. However, Regional Advisory Plans have been prepared in some cases to guide environmental policies in co-ordination with economic and social development. With a few outstanding exceptions these policies had formerly been conceived largely in terms of securing economic goals. The preparation of development plans has rested with local administrations. Although Central Government exercises a co-ordinating function through its approval or rejection of these plans and the allocation of funds for public works, there is a need for more integration of all the strategic policies affecting settlements at a national and regional level. Problems have been caused by the division of power and the scale and multiplicity of authorities. Planning power is decentralised

between the larger counties or regions and their component districts with the objective of giving more control at a local level. With some shared functions, smooth operation of the system requires high levels of co-operation and compromise between counties and districts, which have not been achieved everywhere.

The Australian Government are also concerned about the complexity of human settlement planning and management between Federal Government, State Government and Local Authorities. The need is seen for the provision of a planning framework which will operate effectively at all levels permitting the opinion of local communities to be adequately represented, whilst at the same time co-ordinating the actions of the many authorities involved.

4.10 SETTLEMENT PLANS

In the larger countries, it is considered essential to prepare plans at an intermediate regional level in order to give physical expression to national economic and social objectives, based on surveys of local conditions and needs. Within this comprehensive framework, plans, policies and programmes need to be prepared in greater detail for individual settlements adapted to local needs and conditions and implementation policies. In the bigger cities there is often a large number of agencies dealing with various settlement problems. For example, as a co-ordinating measure a Metropolitan Development Agency has been set up in Calcutta with the role of planning, co-ordinating, funding and supervising, and where necessary executing, programmes for the integrated development of the city. The Indian Government intend to extend this to other Metropolitan Areas.

4.11 SETTLEMENT LEGISLATION

The same need for co-ordination may be seen to apply to settlement legislation. At a national level, many governments are faced with a large number of laws dealing with various aspects of settlement policy. Settlement issues are contained in a variety of laws — e.g. Town and Country Planning Legislation, Public Health Ordinances, Building Codes and Regulations, Anti-pollution Legislation — often incorporated at various times in miscellaneous enactments.

To bring all these enactments together into one consolidating act is clearly an impossibility, but there is a need for rationalisation. There are often conflicts between low and high priority enactments. For example, laws relating to the acquisition of land by Government may exist, but cannot readily be implemented because of the basic constitutional rights accorded to land owners.

4.12 STANDARDS

Settlement policies and legislation should be developed within the context of a proper framework of basic standards. Those standards may be seen to apply to a multiplicity of aspects of the fabric of settlements relating to the minimal space, lighting, sanitation and structural aspects of dwellings and to the provision of communal land uses such as schools. Although many basic standards, particularly those relating to health, have universal application, the unquestioning adoption of specification standards from other countries may not be related to the real needs of the people, and in many cases, have become obsolete in their country of origin. For example, India notes that the present planning standards which have followed mostly the concepts of town planning of developed countries have proved to be inappropriate and are now under revision to make them more realistic. Generally, standards relating to settlements should be adaptable to both cultural and locational requirements.

4.13 PARTICIPATION

In recent years, the need to form better lines of communication between the administrations of settlements and the general public has been recognised. However, in the institutions of central and local government, there is often apparently neither the willingness nor the resources to enter a dialogue between the government and the governed. Arguments against adopting participation procedures have met with a valid yet paternalistic counterargument, namely that the general public cannot appreciate the relationships between local and general issues or the interdependence between individual decisions and actions. The solution to these problems lies not in continuing to impose policies from above, but in stimulating public interest in local issues on the one hand, and breaking down the defensive attitudes of government administrations on the other. This combined approach should be considered as a primary objective of benefit to all sectors of the community.

4.14 VALUES AND ATTITUDES

In conclusion, the perception of the problems in and of human settlements and of the approaches to solving them rely heavily on the values and attitudes of the community in general and on the leaders and administration of the community in particular. These attitudes and values are conditioned by cultural influences and the priorities given to individual and community rights. The root cause of many of the problems within settlements may be found to rest within the compass of ethics. An appreciation of the basic motivations for human behaviour in settlements may be seen as a prerequisite for developing solutions to these problems.

5 URBAN RURAL BALANCE

5.1 GENERAL POLICIES

In this examination of human settlements in the less developed countries of the Commonwealth, it has become obvious that some of the worst problems are caused by the unconstrained mass movement of people from the rural areas. The magnitude of this problem grows not only in relation to the size of this population movement, but also to the lack of resources available. In recognising the inter-relationship between urban and rural areas, the Commonwealth governments are tending to focus their efforts more at improving life in the rural areas, as opposed to concentrating resources on the larger settlements. The kind of policies and programmes which will help to bring about the co-operation and co-ordination needed to redress the urban rural balance can seldom be introduced on a purely local or voluntary basis. In each country, central government should play a key role and establish national and regional policies, striving, not to achieve simply the highest possible economic return, but to develop and utilise as fully as possible all human and natural resources in both urban and rural areas. By upgrading often very inadequate services in rural areas, and reducing the differences between urban and rural life, rural development policies can be seen as both improving the quality of life in rural areas and counteracting the drift to the towns and cities.

How effective rural development can be to reduce urban drift is dependent on the existing and potential resources of the rural areas. Rural development is primarily aimed at mobilising these resources. In countries where the potential cultivatable area of land is limited and where the industrial base of the towns is still underdeveloped, the movement of the people from the rural areas may be seen as inevitable although undesirable. For instance, where rural development is aimed solely at increasing agricultural production, the rationalisation of land holding and increased mechanisation can bring about an increase in the numbers of immigrants to the towns. Cyprus points to its own particular case, where the urban areas were seen to have an excess of jobs over local labour force and a potential for receiving extra population from the countryside. Whilst provision was made for the expansion and development of rural service centres, it became evident at an early stage that by pursuing a policy of concentrated growth the economy of a developing country like Cyprus would benefit from advantages accruing from urbanisation and the objectives for a strong national economy would be fulfilled. The transition between rural and urban life, as in the cases quoted from Jamaica and Trini-

dad and Tobago (see Chapter 3), was not regarded as a problem. Most of the rural population live near to the towns, and urban values and institutions are easily diffused into large sections of rural population so that a 'mental urbanisation' was found to be taking place.

Whilst this policy may be applicable to Cyprus and other small countries with large populations and limited land resources, it cannot be looked upon as a stereotype. Each country should look to its own objectives in securing a proper balance between urban and rural areas. The dangers lie in adopting a short sighted approach which is too narrowly based on short term economic returns. From an economic standpoint, the centralisation of industry is often regarded as a necessary generator of a country's wealth. However, the benefits of such a policy must be carefully weighed against not only the economic but also the social and environmental costs, and considered not only on the immediate, but also the long term time scale.

Even if the most radical of policies to develop rural areas or decentralise industry were applied in most countries, a continued drift to the towns is looked upon as being inevitable. In Kenya, for example, although the impact of migration on the urban areas has led to a comprehensive view of the socio-economic web linking urban and rural areas, and to the formulation of rural development policy to curb rural-urban migration, it has been realised that because of rapid population growth and under-employment, the steady flow of people to urban centres is an inevitable process, only marginally influenced by a reduction in rural/urban economic and social differentials. Matters are exacerbated by the fact that rural areas experience the highest natural population growth rates in Kenya. Even the development of rural growth centres, intended to effect a rational urbanisation process, will require many years to have any significant effect.

In theory a satisfactory balance between urban and rural areas can be brought about by a distribution of settlements which will use existing and future resources in the most efficient way so as to equalise opportunities for the population throughout a country, either between regions or between urban and rural areas. There appear to be two general interdependent and complementary policy approaches to achieving this objective. The first concept is to restrict and decentralise urban growth by developing industries in the rural areas which may otherwise agglomerate in the towns and cities. The second and perhaps more fundamental approach is to develop an improved rural infrastructure based on policies of agricultural land development. Most of the Commonwealth countries have adopted both policies in their efforts to improve settlements in the rural areas and to stem the population drift to the major towns and cities.

5.2 DECENTRALISATION

Decentralisation policies may be seen largely as motivated by the awareness of disparities in the economic wealth and quality of life between different regions. In less developed countries, it is often simply a matter of instituting policies to promote the development of rural areas. In the United Kingdom, policies to reduce regional differentials are implemented by giving inducements, in the form of loans, grants and tax allowances, to new industries to help them move to areas where the traditional industries had declined. Complementary policies control industrial development in the more affluent regions. In Canada, the General Development Agreement process has been introduced to co-ordinate federal and state action in the promotion of economic development in disadvantaged areas of the country.

5.3 NEW TOWNS

In the United Kingdom the national strategy for decentralising activities from the major conurbations has been the New Towns policy which has been one of the most striking and successful examples of settlement development in the United Kingdom within the last thirty years. Since the late 1940s more than half a million people have moved to the new towns. Housing, schools, hospitals, recreational land uses, shopping and other necessary facilities and services have been provided through the New Town Development Corporations. The policies of New and Expanding Towns are based on national settlement policy at a strategic level with special emphasis being given to the revitalisation of the 'depressed' regions and on the diversion of manufacturing industries and offices from the larger congested metropolitan areas. The New Town Corporations responsible for the development have power to acquire, manage and dispose of land; and to undertake construction work, including public services, such as water, sewerage and electricity. They work closely with Central and Local Government Agencies, and development is financed by loans from Central Government Funds, repaid over a period of sixty years out of income from the property.

Although there are undoubtedly lessons for the less developed countries in the principles underlying new town development, the application of these principles in other countries may fall short of expectation. The development of new townships in India has for many years been part of the national settlement policy, but whilst the potential of the new towns as growth centres for the surrounding regions has been generally realised, in the less developed areas the response of the surrounding regions to the new towns has not been as positive as anticipated.

5.4 INDUSTRIAL LOCATION POLICY

Several of the Commonwealth countries are pursuing an industrial location policy as an integral part of their rural development strategy. In Kenya, a policy for the location of suitable industries in the smaller centres has been vigorously pursued by the Government since 1967 by means of persuasion and incentives. The concept of locating industries in any centre is based upon the policy of using locations that afford the industry, the local people and the economy in general the highest returns in terms of employment opportunities. This is coupled with the creation of income and consequent allied economic growth; subject of course to the availability of resources. The policy of locating suitable industries in rural areas is backed by a programme of training local executives and industrialists on how industries are set up, managed and sustained. Trainees are given Government loans to establish industries in designated centres.

Several other Commonwealth Governments including Ghana and Zambia, have set up a system of giving incentives for industrial investment in rural areas. The appropriateness of industrial decentralisation in some countries is however questioned. The Zambian Government has recently initiated a series of decentralised industrial development projects, such as a heavy vehicle assembly plant in Kasama and a battery factory in Mansa, in order to stimulate non-agricultural employment in the rural sector. Projects such as these are not always profitable over the short term, and have therefore been highly controversial. Kenya, while promoting a policy of industrial development in rural areas, stresses that if the highest returns for the local people and the economy in general are found in the major cities and towns, then the industry will locate there.

Aware of these constraints to industrialisation and problems of urban unemployment, the Uganda Government has decided to do nothing to direct industrial enterprises away from optimum locations in the urban centres. On the other hand, they see the decentralisation of administration as an important step in both diverting growth away from the urban areas and as a means of providing basic infrastructure in rural areas. Other Commonwealth countries are following a policy of decentralising the administration of services and activities to a local level, with particular emphasis on local improvements such as co-ordinating labour availability, and the organisation and execution of labour intensive projects for rural improvement.

5.5 RURAL DEVELOPMENT

Many of the decentralised policies discussed have been motivated by the need to improve the rural

communities. Rural development is generally based on the needs of an agricultural community and is an integral part of policies for the development of agriculture, including raising production by crop planning, land development, improved marketing facilities, administration and providing individual incentives through security of tenure. Rural development is as important to a country's well-being as industrial development. Any programme of industrialisation has to be developed gradually and is dependent on a healthy and prosperous agricultural base. Ideally, as agricultural production increases, settlements will develop with improved roads, water supply, electricity, health and educational services. Gradually, a hierarchy of settlements will evolve, producing nuclei upon which other activities such as industry can be based. For instance, in parts of India changes in the rural environment have been noted where resources have been fully developed, based on the improvement in agricultural productivity. A new hierarchy of settlements is emerging based on central villages providing facilities for marketing, transport, social and cultural services. This has resulted in a reduction in the flow of migrants to the larger towns in these areas. The concept of 'Agrotown' in Cyprus is based on a similar strategy of providing a growth pole for an agricultural hinterland. Efforts to improve the overall situation in the rural sector are also being made by the Bangladesh Academy for Rural Development, both at Comilla and Bogra. Their pioneering work is directed towards establishing an ecological balance through a co-ordinated village-based co-operative movement. Other efforts they have undertaken so far in the rural sector are towards organising clustered villages (as models for ideal living), integrated rural development programmes, cyclone shelters, and flood and erosion protection projects.

5.6 APPROPRIATE NEEDS AND PARTICIPATION

In the less developed countries, there is a change in emphasis towards equalising the opportunities for the rural communities and providing a framework in which people use their skills and initiatives to help themselves. The Indian Government has recently instituted a National Programme of Minimum Needs aimed at benefiting poorer sections of society. The Programme is aimed at providing assistance to help rural communities, established through a detailed study of the disparities between areas and resource limitations. Stress is laid on local initiative and participation, and public resources are only to be allocated for items not otherwise procurable. The programme is integrated with rural land reforms aimed at promoting the initiative and interest of individual cultivators. The Harambee Development Policy in Kenya aims at community 'self-involvement' with the Govern-

ment providing an advisory role, giving financial aid only where the circumstances require, and organising self-help groups. Individual farmers have been encouraged to form co-operative groups for the producing and marketing of products.

A recent study on Bangladesh suggests the need to make a proper analysis of rural social problems. The peasant community need to be more aware of their own problems and how to deal with them. The failure of agricultural policies was seen as being caused both by the introduction of inappropriate mechanisation instead of using local resources and inefficient Government administration. Zambia notes that a settlement policy proposed for the rural sector soon after Independence — the regrouping of villages — never materialised into a strong programme because the attitudes of villagers towards basic issues such as land use and tenure, as well as traditional beliefs, were not taken into account. The provision of facilities such as piped water, educational opportunities and health centres in newly regrouped villages, was not enough. The success of Community Development Programmes in both India and Sri Lanka have been reported as nurturing self-reliance, community spirit and local leadership and initiatives. Sri Lanka is at present considering the application of such a programme to the urban areas.

5.7 LAND SETTLEMENT SCHEMES

Several Commonwealth countries have instituted land settlement schemes to develop and reclaim cultivable waste lands to support new settlements. In Sri Lanka over a million people have been settled under such a policy, which is seen to have a significant effect on maintaining a desirable urban rural balance. In Zambia, the land settlement schemes have been set up on State land as opposed to Trust lands, so that the emergent farmer can gain title to his lands. A recently instituted Rural Reconstruction Programme aims at training people so that they may eventually form co-operatives within the land settlement schemes. The Volta River project resulted in the resettlement of 70,000 people in Ghana into 52 planned townships. The new settlers were encouraged to form local development committees to initiate, discuss and implement projects.

5.8 LAND ASSIGNMENT SCHEMES

Security of tenure over land is a very necessary part of rural development policy. Without land, a great deal of local initiative and resources remain untapped. In Sri Lanka, the landlessness of the rural population is the major impediment to a policy of self-sufficiency in food requirements. The Government instituted a process of land reform aimed at limiting individual land holdings, and

'excess' land was vested in the State and made available to the landless people. Several thousand people have already been settled in new 'Co-operative Communities' planned within the spatial fabric of their respective districts. In India, land assignment schemes in favour of landless agricultural workers and repatriates from neighbouring countries have also led to the establishment of small village communities.

5.9 TANZANIA — UJAAMA VILLAGE POLICY

A particularly notable achievement in rural development has been developed in Tanzania in the policy of UJAAMA VIJIJINI (socialist villages) which is concerned with the transformation of a rural society. Tanzania is one of the 25 poorest countries in the world. The agricultural activity is divided between cash crops and subsistence agriculture. Formerly, the main economic infrastructure was designed to facilitate the growth of cash crops with minimum effort. Most of the agricultural production was seasonal, costs being kept to a minimum by labour mobility: when the soil became exhausted through the failure to rotate the crops, the people moved. In such circumstances, a permanent house was a liability. At this stage in the country's development, it was considered that the rural areas could look after themselves. For example, in 1967, 90% of the population lived in rural areas, whereas 98% of the country's housing budget was allocated to towns. One of the aims of the second five year plan (1969-1974) was to encourage more durable rural settlements, notably in Ujaama villages. President Nyerere stated in 1967 that the goals of socialism and self-reliance could best be achieved "if the basis of Tanzanian life consists of rural, economic and social communities where people live and work together for the good of all". By 1971, the setting up of Ujaama villages had become a national programme and in 1974, it was estimated that there were close to 6,000 villages containing two and a half million people.

The Ujaama villages are based not only on concepts of equality and self-reliance, but are seen as reactivating the principles of the traditional extended family. The transition from dispersed settlements has been rapid and has involved considerable adjustment by the rural population. The response to the village programme has involved the movement of thousands of families to the new villages, where the Government has provided piped water supplies, schools, dispensaries and other essential services. Because of the rapidity of the development, there will be a need for considerable involvement by the villagers. Mobile Rural Construction and Housing Units have been set up to give assistance to the villagers to build their homes, using

local building materials. There are 47 of these units at present, and the Government plans to introduce 65 units employing 325 rural construction technicians by 1980. With 6,000 villages to deal with, they face an almost impossible task at present.

Conscious of the need to adopt policies at a local level, the Tanzanian government machinery was restructured in 1972, more power being given to Regional and District Agencies. The Districts in particular had responsibilities to ensure that ideas on planning policy should be sought from the villagers, and financial power and discretion over expenditure were given to the districts and regions. Under the Villages and Ujaama Village Act of 1975 registered villages can elect a village council to undertake tasks expedient to village development and the well-being of the villagers thus making the villages responsible for their own development. A campaign for better housing has been set up — "Operation Nyumba Bore" — aiming at increasing dwelling durability, improving hygiene and living conditions and developing local building skills.

5.10 PAPUA NEW GUINEA — OLUBUS VILLAGE PROJECT — MINJ

One of the eight aims, adopted as guidelines for national improvement by the Government of Papua New Guinea, is that economic activity, planning and government spending should be decentralised with emphasis on agricultural development, village industry, better internal trade and more spending channelled to local and area bodies. The Olubus project is one example of the initiative taken by villagers to improve their village. The Olubus project started in 1971 when a university student persuaded some of his tribal people to move from their scattered hamlets in the Minj area of the Highlands into a community group. Three hundred people at Olubus now tackle their own problems and participate fully in all community activities. A Board of Management of eleven men and three women organise teams to carry out work programmes. For example, roads have been constructed, and two new garden areas for mixed farming have been cleared and planted. The Government has assisted with the establishment of a community water supply system and a bio-gas waste-recycling unit with associated piggery and poultry breeder. School leavers have attended vocational centres to gain information or skills on different aspects of planned projects. A community meeting house has been completed and this provides a meeting place and focal point for educational gatherings and social events, such as singings, parties or dances. Discussions at the community centre with government technicians and university students have generated a large number of requests for information and advice based on the needs, interests and welfare of the community as perceived by the villagers themselves.

6 HOUSING

6.1 HOUSING STOCK

The basic human requirements for shelter were discussed in Chapter Two. Shelter was seen as being of primary importance, not only as a protection against the elements, but as a place offering security and privacy for the family. Within human settlements, the home is functionally interconnected with the other needs such as work, education, health facilities and buying and selling goods. For this reason, housing is seen as an integral part of each settlement and not as a separate commodity. This Chapter will deal with housing, particularly low cost housing, which is the largest land use in settlements.

The provision of housing in each of the Commonwealth countries is varied, depending on the relative overall affluence of each community, house construction methods, building materials, cultural and climatic factors. In different countries, there will be varying levels of inequality between the distribution of housing between rich and poor. The spontaneous housing which has sprung up overnight in many settlements may include different standards of structure and environment. Slum development may be indicative of many levels of hardship when it is applied in the context of the various countries in the Commonwealth. By and large, the standards by which 15% of the dwelling stock in the United Kingdom is judged to be deficient will be different from those used in India where 25% of the population of urban areas are said to live in slums or squatter settlements.

In countries where there is a reasonable distribution of affluence and a high degree of urbanisation, houses are more widely available for owner occupation or rent. Where there is a high degree of urbanisation, a significant proportion of the housing stock may be in public ownership as for example in Singapore, with 46%, or in the United Kingdom, with 30%.

6.2 HOUSING OPPORTUNITIES

The level of family income dictates the type of housing stock occupied and the form of tenure. At the upper part of the income scale, money to purchase housing may be readily available from governmental or non-governmental institutions in the form of mortgages. For those with a reasonable income who cannot afford this type of owner occupation, accommodation may be available to rent within private accommodation or public housing projects constructed by agencies of either national or local government. Industrial corporations or public authorities may also provide housing

for their own employees.

In the less developed countries, few people have the necessary level of income to rent a ready built house, and low income families may in some cases be left to provide their own shelter as best they can. To remedy this problem, Governments are tending to concentrate resources in assisting lower income groups through public housing agencies, or private housing co-operatives, in a variety of types of self help projects including site and service schemes. These measures presuppose that the level of income is sufficient to cover the required purchase, rent and maintenance costs. For those without income, such as the deprived and disabled, the only form of assistance may be through charitable organisations.

In countries where the income levels are low, families must often resort to inadequate and overcrowded forms of shelter with no security of tenure in squatter settlements. In Zambia, for example, the overall shortage of housing units in urban dwelling units stood at 24% of the existing housing stock in permanent construction. In assessing future requirements, the government conclude that the number of housing units which need to be constructed to house the increasing population will grossly exceed past house building rates. The number of people in the low income group is expanding and are often unable to pay for a basic standard of provision. In the less developed countries, the continued growth of population without a complementary growth in wealth has caused a growing housing deficiency.

6.3 HOUSING STRATEGIES

Although the issues are complex and each country needs to find its own solutions to its particular housing problem, there are some general changes in the ways governments are now tackling these problems which may be useful to others. Increasingly it is realised that public housing programmes for the lower incomes in the poorer countries must be directed towards offering security of tenure and providing a basic minimum of services, so as to make the benefits of adequate shelter available to more of the population. These types of programmes involve the public more in the housing process and are aimed at stimulating more interest in the housing environment. Many countries are now allocating more funds to rural housing projects, where lower land values and more readily available indigenous materials in comparison to the urban areas generally contribute to lower housing unit costs. Nonetheless, housing problems are most severe in the rapidly expanding new areas of cities in the less developed countries. In these areas, programmes which mobilise all available resources are needed to improve housing supply at all levels.

Most Commonwealth governments are approaching the problems of adequate housing provision on a broad front. The main bottlenecks are land costs, inadequate institutional credit facilities, and building costs. To some extent, all these factors can be controlled by government intervention in housing by land acquisition, by measures to prevent land speculation, by the control of rents, by measures to encourage owner occupation, and by the promotion of the use of cheaper methods of construction and local materials.

Many Commonwealth governments are anticipating the need to acquire land required for the development of housing in settlements. In addition to acquiring vacant sites, they are acquiring slum housing areas in private ownership improvement or redevelopment. In Jamaica, for example, a Housing Act of 1968 allows the Ministry of Housing to acquire land to facilitate new housing development although its operation is constrained by budgetary strictures.

Public Housing projects have to be carefully cost budgeted, but more attention could also be given to imposing upper limits on the money invested by private sources in house construction. Speculation in land has contributed to rising costs of land and housing in many settlements. In Sri Lanka, the Government has imposed a ceiling on the number of houses that can be owned by any one individual and has limited the maximum plot size for a dwelling. Often the public housing authorities find themselves competing with private developers for scarce housing land. In Suva, Fiji, it was found that private developers had acquired a considerable amount of the best and most accessible land for the construction of high income housing, far in excess of projected demands. Measures to discourage this type of speculation include the taxing of undeveloped land approved for housing development. More attention needs to be given to introducing forms of legislation which do not automatically allow the acquisition of land for housing unless a genuine and immediate need is established.

In Sri Lanka, Jamaica and Fiji, legislation has been recently introduced to permit the ownership of individual flats, a measure which has widened housing choice and has improved security of tenure. A rent act has also been imposed to control rents of property in the private sector in Sri Lanka. Action is being taken to secure a more equitable distribution of housing by encouraging owner occupation and making mortgage facilities more readily available to the lower income groups. In the United Kingdom, this policy operates by a system of tax reliefs. In Ghana, the problem is seen as one of directing savings to appropriate financial institutions. To encourage owner occupation, the

Government in Ghana has allowed the social security contributions of individual employees to be used as mortgages for housing loans and accumulated benefits from this source to be invested in housing. In Tanzania, the Housing Bank is also concerned with mobilizing savings, and is orientated towards providing loans to low income workers at reasonable interest rates and encouraging the formation of co-operatives. As part of this policy, applicants for loans are encouraged to make economical use of building materials and organised self help projects are encouraged.

An important part of the strategy of housing in several of the less developed countries has been to promote the use of local materials for housing construction. For example, the Nigerian Government intend to promote the use of local materials, such as bricks, to reduce the existing dependence on imports. In Ghana, active steps are being taken to increase the supply of locally produced materials as a substitute for imports. A ceramics factory based on local kaolin deposits is being built and the local production of bricks and tiles increased.

While there are no simple solutions to housing problems, effective housing policies should be an integral part of national government strategy. They depend for their success on appropriate modifications to existing legislation, taxation and incentives in order to bring the benefits of adequate housing to as great a number of households as possible.

6.4 HOUSING STANDARDS

Every country should seek to define its own housing standards. In the past, too much emphasis has been placed on imported legislation which has often been inappropriate to the recipient country. Nonetheless, attention should be given to forming general minimal criteria for shelter specifically as a basis for assessing international priorities, needs and performance

It should be the objective of every country to bring all dwellings within the law so that minimal standards can be applied. These standards may relate to the provision of a safe and adequate water supply, sewerage and solid waste disposal, on a communal or individual basis. Standards for minimum space, structure, weather protection, and ventilation standards, may also be applicable. The emphasis should be in forming a minimum of requirements for health and safety. Consideration could also be given to forming standards allowing the use of cheap and semi-durable materials until the occupants can afford to bring the dwelling up to permanent standards. These standards could be incorporated into a single building code based on performance criteria.

6.5 PUBLIC HOUSING

In many situations within countries and settlements, government provision of public housing is essential. There are limits to the type of housing that can be built by self reliance methods. In some towns and cities, housing at high density may be the only feasible solution and the development of certain sites may require sophisticated structures which could not be constructed on a self help basis. At the same time, it must be recognised that certain sections of a community, particularly the old and disabled, can only assist minimally in providing their own shelter.

6.6 SITES AND SERVICES

There is a growing tendency for Governments in the less developed countries to devise policies to make the most use of the people themselves in providing shelter. At the most basic level, these may simply be sites provided by the Government allowing security of tenure and freedom to build within simple rules. Generally, however, more assistance may be given by providing essential services, such as service cores, foundations and building shells to assist in house construction

Ideally, a self help system should be self organising and self maintaining, although some assistance is often needed from Government and other institutions to help the people help themselves. This form of assistance may involve training the future occupants of sites and services schemes on building construction methods and the use of local materials. This is being done by the Mobile Rural Housing Construction Units in Tanzania and in Sri Lanka, where a special scheme has been introduced to promote housing construction on a self help basis by assisting prospective home owners with building materials and technical know-how.

As a long term policy in developing self reliance in housing needs, further emphasis should be placed on incorporating subjects such as house-keeping, domestic health and hygiene, house construction and maintenance in the school curriculum. In certain schemes, it may be appropriate for the Government Technical Units to build prototype houses to illustrate what can be done and to provide free design services for the prospective residents.

6.7 SELF HELP CO-OPERATIVES

Within Commonwealth countries, there has been an increase in the number of housing co-operatives, and the movement has been encouraged by many governments by the provision of special credit facilities. In Guyana, the Department of Community are actively promoting the formation of self

help groups to make self help 'a way of life' among the Guyanese of all ethnic groups both in rural and urban hinterland areas. Projects undertaken cover a wide range embracing house construction, drainage and irrigation work, water supply, the establishment of schools, dispensaries, recreation facilities, health and nursery centres and the construction of roads, bridges, airstrips and other infrastructure works.

The Ministry of Housing in Guyana encourages the formation of self help groups by registering any group of about thirty persons wishing to develop low cost property. The group will be assisted if each member can satisfy a set of minimum financial requirements. Tools and equipment are provided on loan and a technical foreman paid by the Government is assigned to each project to give necessary training assistance and general supervision during the construction phase. Materials are supplied by the Government and the costs of these and other items are borne equally by all members. Mortgage facilities at low interest rates are obtainable from the Guyana Co-operative Mortgage and Finance Bank to assist the group.

6.8 IMPROVING SPONTANEOUS HOUSING SETTLEMENTS

Spontaneous development embraces a wide range of types of housing environment within many Commonwealth countries from substantial concrete buildings in low density peripheral urban areas to makeshift shacks in congested unsanitary urban environments. In many countries, population pressures, scarcity of resources, and rural deprivation have resulted in this type of development being the fastest growing sector of the housing stock. For example, the Indian Government notes that the proportion of squatter development in Delhi had grown from 5% of the total housing stock in 1951 to 20% in 1973. In the past, housing strategies were based on the clearance of such areas, coupled with rehousing and redevelopment policies, but it was found that such approaches required considerable resources and could only be dealt with in a partial and superficial manner. Many recent policies have concentrated on programmes for improving rather than replacing such settlements. Zambia has pointed out that often squatter settlements have developed a life style which is self sustaining and requires minimal levels of investment to improve.

The provision of even a primitive form of shelter represents an accomplishment from which other aspirations can develop. Often the environmental squalor of such areas may be associated with the lack of security of tenure over the land on which the dwellings are built. The first stages in upgrading spontaneous development should be to offer

some security of tenure to the residents of the area. Changes in these areas disrupt the community life and spirit which characterises many of these developments. People in 'shanty towns' are often located fairly near to their place of work and rehousing in peripheral areas can add substantially to travel and opportunity costs.

The physical upgrading of spontaneous development should be gradual. In the first stages, the objectives may be to provide basic essentials such as a wholesome water supply, surface water drainage, individual and communal sanitary facilities, primary roads and footpaths, street lighting and space for later improvements. These latter improvements may include sewerage networks and treatment, secondary roads and road surfacing, electricity and water to individual dwellings and the provision of community facilities such as schools, health centres, market and recreational spaces. The space requirements for these provisions may result in the displacement of some of the original housing. However, this type of development can only take place over a period of time and emphasis should be placed on rehousing the families close to their original area if they so wish.

Often the squatter settlements are the first stage in introducing the rural migrant to urban areas. In some areas, migrants may settle near their own kinship groups who have migrated earlier to the urban areas. Here, the migrant is helped in the transition from a rural to an urban way of life which involves changes in personal habits, the acquisition of possessions, utensils and reliance on different foods for sustenance. The newcomer to the town is often a newcomer to the monetary system and will be faced with new problems of saving and budgeting for his household requirements. In many countries, the migrant will retain close identification with the rural area of his origin. Where spontaneous housing is developed at low densities, the migrant may be able to grow many of his own food requirements thus easing his adaptation to the cash economy of towns from the subsistence economy of the rural areas.

6.9 HEALTH SERVICES

Poor housing with inadequate facilities is characteristic of the urban migration areas. Health risks proliferate and essential health and sanitation services are seldom able to cope with the rapid expansion of the urban areas. In the rural areas, poor and primitive forms of environmental sanitation are no less of a problem. Malnutrition and poor domestic sanitation, particularly with the disposal of human excreta and the control of vectors, is still the greatest underlying cause of disease in many of the less developed countries. There is a need in many countries to extend the

benefits of health services to these disadvantaged sectors whether in the slum inner city areas, the squatter settlements, or in the rural areas. There is a need for a more comprehensive health service coverage accessible, both economically and geographically to all.

6.10 CO-ORDINATED HOUSING POLICIES

A comprehensive housing policy must take into account other key requirements, such as transport employment and social services, as integral parts of the planned development of new housing areas. The siting of new areas in relation to employment opportunities is regarded as of special importance, requiring integration with more comprehensive planning policies. Recognising the need for a new approach to organisation and management of housing, the Government in Sri Lanka is considering the establishment of a National Housing Development Authority with comprehensive powers for the development of housing, enabling matters of infrastructure, employment, transport and environmental issues to be seen in co-ordination with one another.

7 SETTLEMENT CASE STUDIES

7.1 INTRODUCTION

This chapter records studies and developments in settlements with which the Commonwealth Human Ecology Council (CHEC) has been involved. The first study from Malta illustrates the settlement problems of a small island where concentration must be directed not only to urban and productive rural uses but also to conservation of the environment. The second example from Auroville in India, illustrates a unique 'alternative' approach to settlement development. An illustration of helping a village to help itself comes from the CHEC — Bangladesh group. Some aspects of settlement development in Hong Kong and Auckland are noted from the case studies prepared for the Second and Third Commonwealth Conferences on Development and Human Ecology in 1972 and 1975 respectively.

7.2 MALTA

The First Commonwealth Conference on Development and Human Ecology was held in Malta in October 1970 sponsored by the Government of Malta, the Royal University of Malta, and the Commonwealth Human Ecology Council. The purpose of the Conference was to study the relationship of problems within Commonwealth Countries, with the aim of recommending measures to preserve and improve the quality of life. The second purpose through demonstration was to provide proof that new and powerful methods could be established to look at problems in a comprehensive ecological way by the formation of interdisciplinary study groups. A Malta Study Group had been formed prior to the Conference and had made a case study of the lives of a hundred families in relation to such factors as the quality of air, water and soil in their locality, their health, nutrition, income and other characteristics and their views on aspects of life and their aspirations.

Since the time of the Conference the CHEC group in Malta has carried out several other research projects. The following is an abridged version of a paper given by Dr. Saliba at the Third Commonwealth Conference in Auckland on the problems in Malta of integrating settlement planning with objectives of conserving the natural environment.

The planning of settlements and the preservation of the natural environment must be regarded as part of a unified comprehensive planning process. The depletion of natural environmental resources can occur through the encroachment of expanding human settlements, thus endangering habitats and

often fragile ecosystems. In large countries, where space does not present a primary limiting factor, the establishment or preservation of natural resources is not likely to present the same degree of conflict as in smaller and more densely developed countries.

The particular characteristics of the Maltese Islands provide a typical example of the problems encountered in a small island ecosystem, and the means being employed to attempt to tackle the human settlement programme in an integrated manner. The total area of the Islands is just over 300 sq.km., the largest, Malta, being 225 sq.km., and the second, Gozo, nearly 75 sq.km. There are also three small islets, Comino, Filfla and Cominotto. The population is just over 320,000, giving a density of just below 1200 per sq.km. This density is accentuated by the irregular population distribution, and the overall figures are considerably increased, especially in summer, by a large tourist inflow.

Apart from an extensive urban-suburban complex round the main harbours on the north-east coast, settlement patterns show a distribution of towns and villages all over the Islands. In Malta, the distribution is heavier in the southern half, while one of the characteristic features of Gozo is the siting of most villages on rocky eminences. Growth has resulted in some villages being physically linked because of the relatively short distances between them. In most cases home and work place are usually in different parts of the Island.

The mainstays of the Maltese economy are agriculture, industry, and tourism. The demands of all three on "inland" space are closely interlinked. Tourism has necessarily resulted in major coastline development in many areas. The general economic development has increased the need for domestic housing expansion, and consequently a demand for more recreational space. The prevalently rocky terrain and the scarcity of soil has resulted in practically all fertile land being devoted to agricultural purposes. As a result there is a comparative scarcity of indigenous wildlife confined to small areas, mostly in and around deep valleys, which present a reasonable variety of habitats. The flora is varied, and principally herbaceous, the main vegetation being cultivated species. As the rare and uncommon species are found in small numbers in several localities, the problem of extinction by new development is not normally encountered.

The national settlement planning programme in Malta consists of a number of development projects, carried out by different Government Departments, but closely linked to present an integrated approach. Recently a Town and Country Planning Act was put into effect in realisation of the ever pressing problem of conserving agricultural land and soil. Zoning of the country into "green" and

"non-green" areas has restricted modern building expansion to the already built-up areas only. The Planning and Permits Board, along with the Aesthetics Board, ensures that the erection of any new structures does not conflict with overall planning policies, the construction in question blends aesthetically with its neighbouring environment, and that proper hygienic and sanitary standards are maintained. Over the past years physical development policies have been to plan the building of new houses and housing complexes in such a way as to ensure that agriculture and leisure areas are unaffected, and to improve conditions of the existing housing stock and eliminate sub-standard accommodation. A comprehensive slum clearance programme is in operation, coupled with the erection of modern-type dwellings, both in the original area and grouping in housing estates. A special soil conservation act lays down that all soil must be removed from land before building and transported to rocky waste or "poor" fields as part of an intensive land-reclamation programme. This is itself linked with a comprehensive afforestation programme to provide both an increased horticultural output and more leisure and recreational areas. With the exception of this rocky waste land, natural areas have largely been left untouched. In their present state, natural valleys (in which the bulk of wildlife is found) fulfil a useful environmental education requirement, and in some of these, a combination with recreational amenities can also be achieved. Rocky waste, which is also a major ecological habitat, is in no danger of obliteration, as a large proportion of it is non-convertible to agricultural use.

The general aim is to produce a balanced environment, taking into account both the general population needs for urban land uses whilst linking this with an environmental enhancement programme. Simultaneously, a comprehensive environmental education programme is in the planning stage which will eventually be aimed at all sectors of the population. As a long term plan this programme will contribute to environmental preservation, possibly to a larger extent than further restrictive legislation, some of which would be difficult to enforce.

7.3 AUROVILLE, INDIA

A close technical and information collaboration between Auroville and the Commonwealth Human Ecology Council (CHEC) has been established. The following outline of the project has been abridged from an article by Prabhat Poddar published in CHEC NEWS in January 1975.

Noting the parasitic nature of cities in the past, the objectives of Auroville are to arrive at a relationship between the natural environment and the material creations of man, and through conscious efforts to help and guide the evolutionary process

rather than contribute to devolution. The Auroville project is aimed at the integrity and development of Man in society by recognising all his achievements and failures, both spiritual and technical. A nucleus of people has now formed on the land chosen for this town. The first phase of the project is the establishment of a pilot community of about 2,000 inhabitants, called Auromodele — a model of Auroville. This comprises a variety of cultural elements and an interdisciplinary technical group, which spell and act out their own future development as a community and as individuals, a microcosm of the future city of Auroville.

The aim of Auroville is to seek a redefinition of individual, communal and national aspirations, by using all the knowledge at our disposal, and to formulate new attitudes and discover their practical implications for living. It is an evolutionary process requiring an interdisciplinary approach which cannot be achieved without a full understanding of the main trend and purpose of this experimental society.

The project embodies the ideal of self education, and sixteen nationalities are represented in the community. Simple labour-oriented industries such as a press, a hand-made paper factory, a polyester unit, a mechanical workshop, pre-cast concrete works, and various handicraft centres have been started. These will provide work, learning and creative opportunities, as well as better economic conditions for the people from the surrounding villages. Also, an effort is being made to identify the basic needs of man and society in terms of food, shelter, clothing and amenities, and to see whether an economic system could be established such that the community might become self-supporting, while at the same time promoting the harmonious economic growth of the region on ecologically sound principles.

A small weather station has been established and experiments are being carried out using wind energy to generate power. Four windmills are now in operation for pumping water from depths of eighty feet. Several solar powered units have also been introduced; a solar water-heater for a house, two solar cookers (one of the reflector type, the other steam), and a solar pump is under construction and will soon be put on trial. Studies are also under way for designing an ecological house.

Because of the heavy rain (1,000mm a year) concentrated mainly in the winter months from October to January, and removal of soil cover, the region is heavily eroded. Every year new gullies are formed and existing ones deepened and broadened. Through these the topsoil is washed away into the sea. A full-scale management scheme has to be developed to carry out afforestation of the water catchment area and provide check dams in the ravines.

The underground sources of water are limited and lie at a depth of 80 to 100 feet. New studies are therefore being considered to explore other sources of fresh water from the surrounding areas or at greater depths. Since the lateritic soil in the area is extremely poor in humus, the only methods working successfully are those of biological agriculture, which, over a period of years will produce a good fertile soil. Experiments are under way for growing the Alga Chlorella, giving a vitamin and protein rich concentrate, requiring only a carbohydrate supplement to provide a complete food. If these experiments succeed then the nutritional needs of the 300 people living in Auroville could be met from an acre of land.

A programme for fisheries, with the manufacture and use of ferro-concrete boats for deep-sea fishing has been established so that villages may learn to operate all the systems with improved understanding and efficiency. A twenty-four hour free medical-care Centre has been established, which it is proposed to extend so that a comprehensive medical service may be available for individual requirements.

7.4 HASNABAD, BANGLADESH

The CHEC-Bangladesh Group have formulated a number of case studies aimed at the general improvement of conditions in the rural areas in Bangladesh. One such study, a village improvement was discussed by Dr. Anwar Hossain at the Third Human Ecology and Development Conference in Auckland. This is an abridged version of his report.

During the devastating flood of 1974, a CHEC team organised some flood relief work in some neighbouring areas of Dacca. One such place was the village of Hasnabad situated in a low-lying area on the bank of Buriganga river opposite Dacca. Impressed by the creative enthusiasm of the village the CHEC-Bangladesh group considered the prospects of undertaking a more ambitious medium-term flood protection and other development projects in the area. Discussions were held and all participants were anxious that any project undertaken should not be seen as an act of charity performed by benevolent outsiders but should be designed so as to join the initiative of the local people to technological-financial backing. The project envisaged the construction of a retaining wall on the Buriganga river to protect the area from floods. In the reclaimed area, community building was planned to serve not only as a school auditorium and community centre but also as a shelter during floods and cyclonic storms. The project also envisaged the construction of a deep tube-well for local water supply.

The local people were expected to participate both in the physical planning and construction phase of the project and had agreed to donate the land for

the project free of cost and provide the entire unskilled labour component of the project without payment. The project would be managed by a committee with a Project Director, both from the local community. CHEC's role was seen as advisory providing necessary funds, especially foreign exchange required for materials not available locally. After the construction phase the local committee would manage the activities themselves.

It was felt that before embarking upon the ambitious embankment and community building project, a beginning could be made with a limited but immediately effective scheme in self-help. The villagers of Hasnabad had already dug two canals which link the water from the Buriganga river with the rice fields of the village and are meant to provide irrigation water in the dry winter season. The purchase of a few electrically operated pumps would enable them to increase their winter crop at least six times and would generate a surplus income to be used not only to pay back the cost of the pumps, but also for other development projects in the village.

7.5 HONG KONG

The Second Commonwealth Conference on Development and Human Ecology was held in Hong Kong in April 1972 and sponsored by the Chinese University of Hong Kong, the University of Hong Kong, the Government of Hong Kong and CHEC. As in the case of Malta, Hong Kong provided an appropriate area for the study of human ecological problems because of the restricted terrain and its isolation from larger issues of greater geographical extent.

The contributors to the Conference looked at the particular problems of development since the Second World War arising mainly from the problems of population growth. Hong Kong comprises an area of about 1000 square kilometres. The population had increased from 600,000 persons in 1945 to over four million by the end of 1971, as a result of the influx from mainland China. Four fifths of the population live on only 40 square kilometres at a density of about 80,000 persons per square kilometre. The rapid growth in population and the limited land area has resulted in considerable changes to both land use and landscape. The concentration of population was seen to have created problems of pollution, urban management and the scarcity of resources, particularly in relation to the increasing demand for water. Planning for new development is facilitated by the public ownership of land in the territory. The policy for development includes the construction of new towns, urban renewal and the improvement and extension of services.

During the course of the Conference Dr. S.V. Boyden of the Australian National University

underlined the unique opportunity that Hong Kong provided for an integrated case study of the human ecology which would take into account a number of variables normally studied by different scientific disciplines. The programme for the study, which is now nearing completion, was based on a conceptual framework involving two programmes. The first of these included a detailed analysis and description of patterns of flow and utilization of energy of certain materials (e.g. water and foodstuffs). The second involved a survey of four thousand individuals aimed at improving an understanding of the relationship between environmental conditions and life style on the one hand, and mental and physical health on the other.

7.6 AUCKLAND

The Third Commonwealth Conference on Development and Human Ecology was held at the University in November 1975 under the sponsorship of the University and the City of Auckland and CHEC. The Conference was structured to involve both discussion on human settlement problems within the Commonwealth and the case of Auckland in particular. This Case Study was concerned with many facets of Auckland, for example, the changing social and health problems of families within the City, the immigrant minorities, controlling the spread of the urbanised area and the role of national, regional and local government in settlement policies. Professor J.L. Roberts has included the following notes on some salient aspects of this study.

In many ways, Auckland, like the cities of the western seaboard of North America, is a classical example of urbanisation within the modern era of high technology, transportation and social egalitarianism. Auckland acts as a regional pole for the whole of the Polynesian Triangle of the South Western Pacific. Migration from these areas has brought in its train the usual problems of urban minorities that express themselves in racial tension, housing inadequacies, minor but persistent social disturbances and in attempts to erect barriers against certain forms of immigration.

Auckland has been a major dynamic element in New Zealand social development since the Second World War and the urban area now contains something more than a quarter of the whole population. It is one of the most widely spread urban communities in the world. Los Angeles County, the local authority with general governmental responsibility for the world's classical spread city has ten million people within about the ten thousand square kilometres over which the County has jurisdiction. The Auckland Regional Authority has an area of five thousand square kilometres in which only 800,000 people live.

These two factors, the accelerated rate of growth in Auckland in comparison with the rest of the country and the comparatively high cost of servicing the vast area over which that population has dispersed, have led both the central government and the Auckland local authorities to consider the need for constraints on growth. But these discussions have led, as in other countries, only to the realisation that it is one thing to recognise the need for better distribution of social and economic growth, but it is quite another to generate the political will for the major controls necessary to achieve it. In a proposal directed at achieving a moderate rate of growth, the Director of Planning for the Auckland Regional Authority pointed out that it would require effective government policies in such basic matters as port growth, zoning, open space and housing policies, public ownership of land before development changes in the present forms of development finance and strong community support for planning and development politics. Clearly few of these conditions, if any, existed and the development, of the political drive to achieve them was seen by the participants in the Case Study as a major inhibition upon successful forward policy.

The analysis of local authority activity and of minority group organisations revealed a genuine attempt to increase the level of community consultation. The Mayor of Auckland City, the major local authority for the urban region, supported well prepared guidelines for the future social life of the city. Planning for future physical and economic welfare was meaningless without social consciousness.

A senior official of the Maori Affairs Department responsible for the social welfare of Maoris in urban areas pointed out that a majority of Maori adolescents were leaving schools so unequipped for the demands of urban industrial life that they eventually found their way into the more poorly paid occupations. The implications for social peace and balanced social policies were obvious. As Anthony Hooper, an anthropologist explained, Auckland may not have destroyed the homelands from which her Polynesian migrants come, but it has severely maimed a good number of them.

8 INTERNATIONAL CONTEXT

8.1 GLOBAL COMMUNICATIONS

The rapid development of modern means of communications has led to the establishment of a close network of international contact bringing about an increasing spread of information, ideas, values and attitudes. The United Nations Conference on Human Settlements is in fact one of the many international activities made possible by this development.

At the broad ecological level, it is realised increasingly that all nations are linked through the many cycles which operate in the biosphere. The consequences of the failures to solve particular problems in settlements may be transmitted not only to their own immediate hinterlands but over a much wider geographic sphere. International attention to these failures is essential and should play an important part in assisting each nation to tackle their particular settlement problems. It must be reaffirmed that any international analysis of problems or posing of solutions should be related to the real needs of the people in that particular culture in that particular location.

The transfer of cultures between nations is nowhere so apparent as in the major cities where the planning, architecture, and civil engineering works often reflect the absorption of imported technology and values. Cities in many less developed countries bear more similarity with one another than with their rural hinterlands. Their principal links are the economic bonds of international trade, and the values they represent often do little to develop traditional cultures. There is a serious failure to appreciate the extent to which borrowed solutions to settlement problems are invalid and inappropriate in another cultural context. Even on those issues where a common international approach is relevant there is a continuing failure to learn from either the successes or the mistakes of others.

8.2 POPULATION GROWTH

There is a growing awareness that many existing and projected global problems are attributable to the continuing high rates of world population growth. Although much is being done to lower these rates by encouraging changes in social attitudes, particularly in relation to family planning, there is inevitably a long latent period before the most successful programmes or trends can take effect. Internationally, the problems created by population growth demand a substantial review by Governments and international organisations on the use and deployment of the world's resources.

The distribution of population between urban and rural areas is changing. Largely as a result of migration from the rural areas, towns and cities are growing at over twice the rate of overall population growth. In the less developed countries, the growth of the larger cities is particularly pronounced. In these cities, such growth emphasises the need for the fulfilment of basic human requirements for food and water, shelter, health, education and work. The crisis is most acute in those settlements where the gap between population growth and resources is greatest.

8.3 WASTAGE OF RESOURCES

The technology on which the modern cities and societies in the more developed countries has been based, is dependant on the assumption of an endless supply of non-renewable resources. New forms of human settlements have evolved which depend for their operation on the consumption of high levels of energy derived from the world's supply of fossil fuels. This phenomenon is particularly marked in the growth of personal transport and has resulted in the occupying of large areas of land in many cities by highways and parking areas. The dispersal of activities has resulted in the need for elaborate and extensive transport networks. The displacement of effective mass transit by cars in some cities has had serious social and economic consequences. To these may be added health risks as a result of traffic accidents, air pollution, and the deterioration of health through lack of exercise. Health risks have also occurred in settlements through the pollution caused by the inefficient processing of materials by industry. New approaches are required, for example in transport where consideration could be given to how activities within settlements can be interconnected in the simplest way, giving a higher priority to essential accessibility needs rather than the desires implicit in the word 'mobility'. Similarly, technologies need to be developed based on concepts of energy conservation to heat or cool settlements using alternative energy sources.

In general, the rapid depletion of the more accessible non-renewable resources has created a situation in which the concentration on problems of conserving resources at an international level is essential. The development of settlements should be based on ecologically sound principles, by limiting the borrowing from other environments and placing much more emphasis on self sufficiency.

8.4 APPROPRIATE INTERNATIONAL AID

There is a need for further specific programmes to be devised at an international level to assist those settlements where the need is greatest. Existing aid programmes need to be expanded and directed to the areas of urgent need, in forms which can be sustained in the future. More attention needs to be

given to ensure that aid is both timely and appropriate. There is an apparent attraction in capital intensive projects as they are prestigious to the recipient and the donor. Often the problem with this type of aid is that the people to whom it is directed remain uninvolved, having no sense of the value of, or feeling of identification with, the project. In these circumstances, initiative is stifled and the need for ongoing activities such as maintenance is not appreciated. A pre-requisite for any aid programme is that it must involve the support and active participation of the local people, sharpening an awareness of the implications of the project and its outcome on both the natural environment and their way of life.

The less developed countries have often accepted aid by their identifying and imposing solutions to settlement problems outwith their own economic and cultural context. A particular solution which works well in one society may turn out to be an ecologist's nightmare in another. At the international level, there needs to be greater awareness of cultural differences and the extent to which the values of each country conditions their way of thinking. In particular, the more developed countries need to be more aware of the domination of their culture by concepts of science, technology, and economic growth, which have been the cause of many of their own settlement problems, and often render their pronouncements about suitable solutions in other countries questionable.

Despite the efforts of the less developed countries to help themselves, the increasing wealth differential will mean that more aid will be required in the future. In particular, trained manpower will be needed to assist in solving human settlement problems and training staff within each country. This manpower needs to be appropriately trained in an awareness of the fundamental differences in the conditions between countries and the impact of work in an ecological context. Without adequate information, the visiting expert is tempted to create reassuring familiar situations in carrying out his specialisation, at times unaware of the built-in response systems which may precondition his judgement.

8.5 EDUCATION AND RESEARCH

The aims of education in relation to human settlement policies need to be directed towards increasing the general awareness of settlement problems at national and international level as part of a broader programme of extending individual horizons of social responsibility. If the best use is to be made of new knowledge and ideas relevant to human settlements, there should be a very effective and rapid means of communicating the relevant information to all concerned at all levels of detail and complexity, from that suited to the expert to that required by the young.

A proper understanding of human settlements requires a broad multi-disciplinary approach which takes into account the different components of settlements and the interactions between them to provide the necessary basis for planning and policy-making in the future. Education for settlement policies at all levels should concentrate on instilling an awareness of these interrelationships and a realisation that the educational process for 'specialists' should concentrate more on widening their ability to work with other disciplines.

Education in human settlements should be related to the specific differences between countries creating an awareness of the differences in policies between the less developed and the more developed countries and between predominantly rural and urban societies. Often the less developed countries have inherited an education system based on western concepts which places too much emphasis on measuring the success of a few to reach high levels of academic attainment and not enough on the attainment of a broad level of education by the majority.

The general educational needs related to human settlement policies should involve more concentration on the lower levels of education, teaching basic community skills to the young and training adults in community responsibilities and self reliance. More attention in each country must be given to training manpower in skills like planning which are appropriate to settlement policy making. Many countries will have to rely on international assistance to help them carry out this objective.

International research is required on many aspects of human settlements. Appropriate forms of international research programmes and identifying gaps in knowledge about world and regional issues. There is a need for more research on appropriate building technology and materials which can be used for the construction of shelter. In general, much more needs to be known about the limits of resources and alternative technologies which make more use of renewable resources. There is a need to evolve a further set of indicators related to human settlements based on concepts of fundamental needs to assess performance and direct aid to where the need is greatest. Further study is needed into population distribution and demographic changes. It should be linked to the urbanisation process, economic requirements and conditions for growth, ecological constraints and opportunities arising from geographical, climatological and biophysical factors, and the spatial distribution of functional activities, technological limitations and possibilities, and behavioural elements in human settlements. In particular, research may be directed to the manpower requirements needed to deal with the problems of human settlements in each country.

8.6 THE ROLE OF NON GOVERNMENT ORGANISATIONS

Non Government Organisations have a special role in helping to create an awareness of settlement problems and helping to mobilize public opinion on these issues. CHEC and the Joint Commonwealth Professional Associations see the need to develop their own international approach to settlements by means of an interchange of technical information, by research and financial measures, and by developing knowledge on interrelationships between the individual in society and the natural environment. The Association has built up a network of communications within the Commonwealth linking individuals, affiliated groups, national organisations, universities and technical institutions. Studies have been made of the basic needs and problems in human settlements and links established between needs and resources. The object has been to offer an alternative approach to problem issues which cannot easily be dealt with by more formal international and Government organisations.

Within each Commonwealth country, local initiators are encouraged to identify problems and to secure both the co-operation of the local community and governmental and other non governmental agencies to deal with them. The main concern is to establish local study groups to discover on the ground important local needs and to relate these in an action programme to regional and international networks. Studies of communities are made which aim at adopting a comprehensive and farsighted approach, linking aspects of sectoral knowledge, such as health education and physical planning, the developing and utilising of human and material resources, and marketing and transportation networks, into a total ecological concept. The aim of such studies is not only to present solutions to problems, but to stimulate individual creativity amongst people living within a community so as to make them more aware of the interrelationship between their needs and the various means by which they may be solved.

CHEC and the Joint Commonwealth Professional Associations seek to extend their linkages between Commonwealth and non Commonwealth countries, and to seek liaison with other international bodies with similar objectives. Future aims include the further co-ordination of research and information on human ecological issues within the Commonwealth, and the development of educational programmes. The network will be extended to receive and act on requests from active groups concerned with relevant problems and to channel resources, skilled manpower and funds to deal with these problems as required.

In general, CHEC and the Joint Commonwealth Professional Associations recognise that attention needs to be given to a more organised and sustained form of co-operation between government and non-government organisations. There is a need for greater recognition by governments on the part that voluntary organisations, whether professional bodies or groups of concerned citizens, can play in achieving common goals. CHEC and the Joint Commonwealth Professional Associations look forward to finding more opportunities in the future to give support through their activities to the work of such intergovernment organisations as the Commonwealth Secretariat and the United Nations Organisations and its agencies.

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The report is compiled from various Commonwealth Government Reports to HABITAT, from written contributions of members of CHEC and the Commonwealth Professional Associations, and from the Proceedings of the preparatory conference to HABITAT, the Third Conference on Development and Human Ecology, organised by the Commonwealth Human Ecology Council, the University of Auckland, and the City Authorities, and held there in November 1975, and from the experience and knowledge of a great many Commonwealth citizens. The principal contributions which have been referred to in preparing the text are listed below:

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THE COMMONWEALTH COUNTRIES — population, population density and population growth

KEY

Population in thousands (1973 Mid year estimates)	
Persons per sq/km (1973)	Annual rate of pop. growth (1970-73 %)

