The Interrelations of Urban and National Economic Planning

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Lack of Integration of National and Urban Planning

Probably nobody would disagree with the statement that urban planning should form an integral element of national planning, yet almost nowhere is this a reality. Many countries have embarked on enormous numbers of separate programmes covering all economic, social and educational fields, but few of these could be characterised as constituting a plan. Through a strange metamorphosis, the word 'plan' as applied to national planning has come to be associated with macroeconomic policies of employment and prices, frequently embodied in a model composed of a few variables of large aggregates (Imports, Employment, Capital Formation and so forth) which are supposed to supply answers on how the objectives of full employment under stable price conditions can be attained. At the moment, this approach is under strong attack. For the remaining variables, a host of uncoordinated programmes is incorporated in annual budgets to serve a variety of worthy though unrelated purposes. Urban planning is generally considered a local

matter and does not have a strong impact on national planning. The most important factors are generally taken as 'given' and not subject to change by local authorities.

Occasionally, an urban problem becomes sufficiently urgent to receive national attention, as in the case of the problem of 'depressed areas'. But even this has been treated as a troublesome peripheral problem rather than as an integral and indispensable part of the National Plan. Among developed countries, perhaps France has been the one with the most comprehensive urban plan of such magnitude and scope as to make an impact on national planning. Among developing countries, Singapore undertook such an enormous programme of housing and rehousing as to give a tremendous impulse to the whole economy. This, however, was its effect rather than its purpose, and after all, it is a city state. For a country in a more conventional sense where an effort was made to integrate national and urban planning on a massive scale, we must turn to Colombia.[1]

Before describing that programme, however, the

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[1] This effort is described in the policy document *Ciudades Dentro de la Ciudad: La Politica Urbana y el Plan de Desarrollo en Colombia* (Departamento Nacional de Planeación, Bogotá, July 1974) and exemplified by the work of the Bogotá Urban Development Study Phase 2 (1972-1973 by Llewelyn-Davies Weeks Forestier-Walker and Bor, with Kates Peat Marwick & Co. and Coopers and Lybrand, consultants) the work on Barranquilla Planners Incorporated, by Garcés and Smith and Delaplaine Associates; the study of the proposed city of Salitre (within Bogotá) by the American City Corporation, consultants, 1974.

basis of a possible integration of national and urban planning should be discussed. This will be treated in terms of answers to various questions: how can growth be accelerated? What impact will growth have on where people live? What characterises 'natural', unplanned growth working through the price system? How can urban growth be planned to enhance the quality of life and hence wellbeing? Is the emerging 'plan' a feasible and a desirable one?

How Growth can be Accelerated

This is a large and controversial subject on which we cannot pretend to say the final word in a few paragraphs or pages. All that can be done here is to indicate that at least one strategy of accelerating growth places heavy stress on the stimulation of building and hence, by implication, on urbanisation.

Economic growth necessarily entails an increase in the value of production of goods and services at constant prices. Hence, in the broadest terms, it entails an increasingly 'better' (or more productive) use of resources and a more intensive use. This general principle extends, naturally, to agriculture, in which such a large percentage of the working force in developing countries is engaged. But growing productivity in agriculture either implies more production, or the same production with fewer and fewer people, or a combination of both. The actual outcome will depend a good deal on the income elasticity of demand, that is, the amount that consumers will spend on agricultural goods of an increase in their incomes. If the demand is quite inelastic, an increase in productivity will have the effect not of increasing agricultural physical production and incomes but of rendering agricultural labour superfluous. Full and productive use of resources under these circumstances then necessitates mobility or the ability to provide remunerative work outside of agriculture to low income agricultural workers. Generally, this can be done only in the cities, where the goods and services are produced on which consumers spend an increasing proportion of their incomes.

Hence we arrive at the conclusion that the more successful we are in increasing agricultural productivity, the more rapid we can expect to be the growth of cities, or, in other words, that economic growth necessarily implies urbanisation. Not to accept this conclusion would necessitate arguing that economic growth can proceed *without* an increase in agricultural productivity, or that it can be concentrated in agricultural production, with the *per capita* consumption of agricultural goods steadily rising relative to other consumption, both conditions impossible to reconcile with growth or development as the words are currently understood.[2]

This is consistent with and helps to explain a calculation that of the projected increase in population from 1970 to 1980 of 60 million in the six countries of Argentina, Brazil, Chile, Mexico, Peru and Venezuela over 70 per cent were expected to be in the urban sector even though the economic growth trends in some of these countries are not particularly outstanding.[3]

The above argument applies to growth under all conditions except that arising solely from export of primary products. It applies particularly to growth arising from leading sectors where growth can be stimulated exogenously, or independently of the rate of growth in the economy as a whole. This condition can be satisfied if the sectors are relatively large and if there exists both a large latent demand and a high income elasticity of demand for the products of these sectors. Certain exports, and construction in general, frequently satisfy these conditions. Manufactured products and buildings are both pre-eminently urban products so that growth stimulated by increases in these fields naturally spell a growth in urbanisation. So again, by a different line of reasoning, we arrive at the necessity of integration of urbanisation and development.

What Kind of Urbanisation?

What might be described as a typical city in a developed country, and one which is rapidly being

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[2] The same point is made empirically by Koichi Mera in 'Urban Agglomeration and Economic Efficiency' (*Economic Development and Cultural Change*, Vol. 21, pp. 309-324): 'The available empirical analyses presented above show that large cities are likely to be particularly more productive relative to others in a less developed country'. This finding is consistent with that of a three year study under the chairmanship of Arch Dotson of the Southeast Asia Development Advisory Group of the Asia Society (1971-1972): 'The more urbanized a region, the higher its level of development.'
[3] Robert Fox, 'Regional Urban Population Growth Trends', Inter-American Development Bank, Urban Population Series, No. 4, 1974.

duplicated in many developing countries, has the following characteristics:

1 separation of places of living and working;
2 a high density centre and low-density suburbs;
3 extensive use of the private car for personal transport;
4 constant studies and 'solutions' of the traffic 'problem';
5 segregation by income classes, with poorer people usually occupying run-down and deteriorated areas near the centre;
6 increasing numbers of people living in suburbs dependent on personal transport for *all* movement including schools, sports, shopping and so forth;
7 mass transport solutions offering little remedy for surface congestion;
8 with continued congestion, the existing centre loses its efficiency;
9 skyscrapers, high land values accruing to private individuals, deterioration elsewhere near the centre, constant renewal of some parts and obsolescence of others;
10 the individual dwarfed by what he has created, and feeling a sense of insignificance or lack of importance in the general scheme of things;
11 opportunities for diversion again dependent in large part on the personal automobile for driving long distances;
12 the generation of noise, dirt, pollution and tension;
13 inadequate outlets for the social needs of man.

It will be argued that these characteristics are not inherent and necessary features of urbanisation, but rather the consequence of lack of planning. True, there have been numberless city plans and studies but, except for certain European cities, such plans have generally relied on enforcement instruments such as zoning, norms, building codes and improved transport facilities, all of which have not prevented the tendencies noted above. 'Planning' has been too often considered to be a matter of esthetics, or of ensuring enough air and light, and has not sufficiently taken into account the strength of economic forces. Occasionally zoning authorities have been strong enough to *prevent* something from happening. Rarely have they been strong enough to *cause* something to happen. There has, for example, been no effective control over movement of people to the suburbs or the use of the automobile for personal transport (other than to make its use more expensive).

Hence, urban planning has not attempted to change existing tendencies but rather to temper or guide them. Indeed much planning has been of a nature to reinforce these tendencies, such as providing transport facilities to permit people to live even further from their work, schools and shops, and zoning to protect property values, which further separates work from living. Planning, in short, has worked to accentuate the fragmentation of modern life. It has yielded to the pressure of high land values It has sought to bring public services to people where and when and to the degree they demand them. It has only to a limited extent sought to influence the pattern of urban design and metropolitan structure, and to exert a decisive influence on where people live and work. This has been considered a matter for each individual to decide for himself; but of course individual decisions are very largely shaped by economic influences. In reality, planning has concerned itself with the fringes of urban living. The urban pattern itself has been the outcome of unplanned forces, and it is the basic pattern which we find unsatisfactory. From the point of view of the pattern, it is probably not an exaggeration to say that urban growth has been planless.

Perhaps the picture sketched above is too grim, and fortunately it is possible for some to live satisfying and even exciting lives in large cities. The fact remains that the unholy trinity of the pricing system, inequality of income and the private car, compounded by growth in numbers, has created a way of life that is extravagant in the use of resources and which fails to satisfy the social needs of the majority of the inhabitants. 'Extravagance' is a relative term, and many will object that the automobile or mass transport gives freedom of choice and movement and is, indeed, a necessity. But it is a necessity created by the means itself. Cities as they have developed and are developing have resulted in a resource use pattern that devotes an inordinate share of resources to movement, and insufficient allocation to activities that enhance the quality of life and render us better able to control our environment. It appears to be a sober but unescapable conclusion that the urban way of life as it has developed under

the pricing system is neither a satisfying nor enduring way. The point is tersely put by Wilfred Owen, 'Conventional cities must rely on travel to compensate for disorder'.[4]

Why Planning is Necessary

Permitting land use to be determined by land values, the widespread use of the private automobile, the provision of roads and parking areas (or, in the case of the largest cities, massive transport facilities) and the provision of services to wherever people wish to have them mean that the present urban land use pattern appears almost inevitable. It may be modified by the pricing system only if energy becomes intolerably expensive, forcing a curtailment of all activities and consumption, including movement. However, the nature of the actual design probably means that other activities will be curtailed more than movement.

To developing countries, whose larger cities face a three or four fold increase in population, the prospect is grim and poses a dilemma difficult of solution. On the one hand, urbanisation appears necessary and desirable if development is to continue; on the other, the type of urbanisation we have been and are witnessing is both extravagant and unsatisfactory as a way of life. What is the answer?

As a first step it may be postulated that if it were feasible to combine the social advantages of smaller communities with the economic advantages of larger metropolitan areas, we might secure the best of both worlds. If it were possible, in other words, to *live* in a community in which almost all things necessary for life were within walking distance, we would avoid most of the disadvantages of urban life as it has developed in this century.

This is the underlying theory of the British New Towns and the American Planned Communities. The New Towns, however, have made little contribution to the 'urban problem' of Britain largely because, curiously enough, of the nature of the personal values of their original planners and their lack of knowledge of the strength of economic forces. They were planned as small, low-density 'garden cities' distant from metropolitan centres· The consequence has been that they have attracted a relatively affluent and car owning population, 'clean' occupations, and relative lack of excitement or stimulation, especially for younger people. The use of the private automobile is even more extensive than in other cities and the footpaths and bicycle paths are deserted. Younger people are drawn to neighbouring cities or to London, where also the lowest income groups live. The New Towns have provided a pleasant environment for a relatively very few people at considerable cost, especially for older cities like Liverpool, to whose decay they have contributed.

The American Planned Communities were designed for the most part as private-profit-making ventures where the fruits of growth were to accrue in large part to the developers. They, again, are too small and affluent, with low densities and heavy use of the private automobile. Again, they provide an agreeable environment for a few but they have not as yet touched the major problem of the American urban form of life. What they have demonstrated is that a fully planned community produces a more agreeable environment than unplanned growth, and that site value can be captured by the developing corporations, be they public or private.

A basic defect of the pricing system and zoning as instruments for determining the use of land is that a use dictated by cost-benefit calculations has necessarily to be based on the price of land to-day. An individual or company cannot reasonably be expected to erect buildings suitable for a possible land use pattern four or six years hence. A shopping centre suitable for a city of 400,000 can hardly be required by planning authorities or provided by private initiative for an uninhibited tract of land with no surrounding population. The only justification for determining land use based on plans five or six years hence is *when the planning authority has the means of making that land use occur*. Thus 'planning' by zoning and reliance on current land uses will inevitably produce a very different land use pattern than planning by a corporation that owns the lands and can secure the financing for a complete city.

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[4] Wilfred Owen, 'Automobiles and Cities—Strategies for Developing Countries' (The Brookings Institution, Washington, 1973). For some years Wilfred Owen and I have been working along parallel lines, he in insisting that the solution for the traffic problem must be found in its reduction, I in the concept of cities-within-cities. See in particular Owen's *The Accessible City* (Washington: The Brookings Institution, 1972).

A More Desirable Urban Design

What is needed, especially by the developing countries who have many urgent wants that should take priority over urban transport, is an urban design for growth that will avoid the disadvantages listed above. That design can be found in the concept of cities-within-cities, or a cluster of true cities making up a metropolitan area. It is difficult to convert an existing large city into such a cluster, though progress can be made in this direction, but it is much easier to plan growth in this fashion if control can be acquired over land use (by ownership) and over mortgage funds. Even a large city like Paris is actively engaged in planning its further growth in five large, self-sufficient cities of 400,000 each in its suburbs, as well as regrouping activities within the existing city of Paris. The concept is being extended to four other metropolitan areas of France where six true additional cities are being planned.

Singapore, after considerable and successful experience with a partial adoption of this concept (housing estates with some employment, commercial centres, schools and community facilities) is now developing, within its metropolitan area, cities with sufficient employment for all. The city of 500,000 of South Richmond on Staten Island in New York was planned to be a true self contained city.

In other words, there are already partial precedents or plans for the concept of cities-within-cities that could serve as a basis for the development of a new design for urban growth. All that needs to be done is to diagnose the existing ills of urbanisation, construct a concept of design that would avoid these ills, and select bits and pieces of existing experience to forge a new approach to the problem of massive urbanisation.

Ideally, a new city should be:

(a) sufficiently close to the existing centre or have sufficiently good transport connections, so that trips to that centre for special purposes would not be excessively time consuming and the economic advantages of large centres may be easily available;

(b) large enough to provide most goods, services and activities most people ordinarily require so that the attraction of the existing or other new centres can be resisted for most activities;

(c) socially diversified in order to provide the basis of a good social mix;

(d) large enough to create the values arising from size and growth, and enable the capture of such values for social purposes;

(e) well designed to avoid monotony and create an identity so that residents can take pride in living there;

(f) compact so that most activities are within walking distance, which implies relatively high densities and obviates the necessity of a car or public transport for daily living purposes;

(g) surrounded by parks and play areas to permit participatory diversions either of sport or of a cultural nature;

(h) planned to make it possible and attractive for residents to work in the city, rather than elsewhere, and for people who work there to live there, rather than elsewhere.

At first sight these criteria may be startling since they differ so widely from the existing pattern of a monocentric-city surrounded by blighted areas and endless suburbs. It is as though existing cities have been created expressly for an automobile style of living. Actually what has happened is that the automobile made possible a low density, widely dispersed style of urban living and, having made it possible, made itself indispensable *for that style of living*. What has to be kept in mind is that that style of living is not the only urban style possible, that it is a style that entails many disadvantages, and that its cost, largely concealed, is an enormous loss of resources to meet other needs of man.[5] Once this is grasped, the way is cleared for a consideration of other possible styles of urban living and forms of urban design and a weighing of the advantages and disadvantages of different life styles. The design under consideration, cities-within-cities, sacrifices the large land area per family that living in suburbs requires. In compensation it offers much in the removal of the ills and costs enumerated above. Even in an affluent society, the advantages of the proposed design appear to outweigh the advantages of existing design. In a developing society the

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[5] 'Materials may not be available for extending today's automotive technology to the developing four-fifths of the world, and if this is so, how long will the developed countries be permitted to draw on resources that developing countries might otherwise have to meet their own priority needs?' Wilfred Owen, 'Autobomiles and Cities—Strategies for Developing Countries', p. 32.

advantages of the urban cluster principle far out-weigh the advantages of an unplanned suburban and urban life style, since conversion to an automobile style would impose costs for many years to come, costs so great that it is to be doubted whether the bulk of the people could ever own and use cars, or, if they did, if they could also spend at the same time adequate amounts on health, education, housing and social diversions.

Implementation and What it Implies

The implementation of the proposed design is facilitated by rapid growth and hence it is peculiarly adapted to developing countries. The principle applies equally to existing large cities in more economically advanced societies—it is only the implementation that is more difficult. Most large cities contain vacant or deteriorated areas that might be reconverted, along with adjacent urbanised areas, into self-contained cities. Employment and commercial centres can be brought to a predominantly housing area; housing and commerce can be brought to a predominantly employment area. It can be made possible for office workers to live within walking distance of an office centre, as well as other workers who find employment in such centres, and in this way make great savings in peak hour transport, savings which can be used to provide other services or to reduce rents of publicly owned housing. In other words, if the advantages are considered worth-while, the cluster principle can be applied to existing urbanised areas as well as to areas adjacent to them. Admittedly, however, the implementation will be more difficult if the acquisition and demolition of existing urbanised property is necessary.

Turning more directly to the application of the criteria, especially for a rapidly growing metropolitan area in a developing country, a few comments are in order. In the first place, it does not appear practicable to attempt to determine precisely how distant the cities should be from each other and from the existing centre. The closer, the more difficult it may be to create separate identities and to make it attractive to live and work in one centre rather than to live in one and work in another. However, the tendency toward dispersion will probably have to be offset in other ways in any case. One of the more

startling conclusions is that the less surface congestion and the faster and cheaper the mass transport, the more difficult it will be to implement the design, the more must be spent in urban transport, and the more diffuse will be the cities. Hence the provision of mass transport is contradictory rather than complementary to the urban cluster design. If one can get to work from 15 miles out as quickly and as cheaply as one can from a mile away, the pull to the suburbs would be wellnigh irresistable. One of the strongest inducements for people to live near their work is the cost and time of travel thereby saved. If the saving is little, the inducement is to that extent lessened.

This is only saying in another way what has become apparent in recent years—the more success in resolving the traffic problem, the greater the problem grows and the more need for ever more costly solutions. Underground transport systems enable more people to work in the same small area, lead to ever higher buildings and greater densities, higher land values, and more people and traffic, especially on the surface. If this is recognised, a condition for the stabilisation of existing centres and for their becoming more self contained will be the abandonment of costly efforts to permit more and more people to arrive from long distances to the centre at the same hour. Hence our proposal that emerging new cities-within-a-city *not* be immediately connected by a rapid transit system to the old centre is not as startling as it may first appear. Indeed, one of the advantages of the proposed design is that it dispenses with the necessity or justification of spending more and more on improving routes to handle more traffic to the existing centre. The ideal is that traffic to the existing centre *not* grow, at least peak-hour traffic. A condition for the stabilisation of the existing centre is that more people who work there will live there, and that the number of people who work there will not grow.[6]

It would appear, then, that a proposed new city should be beyond comfortable walking distance of the existing and other new centres, and that no particular effort be made to accelerate personal travel between them. The objective is to reduce commuting or peak hour traffic and only provide sufficient means to permit reasonably rapid *off* peak personal traffic and continuous commercial traffic

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[6] 'Already, and without any further increase in automobile ownership, it is physically impossible to use the car for substantial percentages of peak hour travel in the central areas of most big cities.' Wilfred Owen, *ibid*, p. 37.

to obtain the economic economies of large urban concentrations. To invoke the law of gravitation and argue that the more distant the new city the more decentralisation is furthered, leads only to the conclusion that the new cities should become satellite cities and in this case all the advantages of a large metropolitan area of high density would be lost.

The viability of a new city will depend on a number of factors including its size and compactness, and the inducements that can be offered to live and work in close proximity. The more reliance that can be placed on these factors and the less on distance, the more will the objectives of the proposed design be served by avoiding suburban sprawl and accommodating large numbers of people in a relatively small space. If this can be done without congestion and overcrowding, more of the economic advantages of a metropolis will be saved and the more can resources otherwise devoted to transport be available for other purposes.[7]

On size, the French planners have, in my opinion, quite correctly argued that the city should be large enough to permit residents to obtain most of the goods and the services and enjoy the activitis that they wish. They feel that the minimum size for this purpose should be 400,000. It is interesting to note that apparently quite independently the Singapore authorities are now moving to a 400,000 community after previously building estates housing up to 175,000.

The combination of size and walkability necessarily dictates the density. A population of 400,000 living within a radius of 1·5 km necessarily requires a gross density of approximately 283 persons per hectare or 57 dwelling units per hectare (118 persons and 24 units per acre). The residential density and the number of high-rise apartments will depend on the percentage of the area allotted to commercial, educational, industrial and community purposes. Within these parameters, designers may come up with a wide range of solutions. What appears unlikely, however, is that these solutions can contain any single family housing and still leave adequate space for other activities inside a walkable area. The shopping and in part the diversion centre must be supported by a sufficiently large population within easy walking distance (1-½ km or a mile)

to provide for a wide variety of stores and activities, and to provide an atmosphere of movement and stimulation.

Perhaps the most difficult requirement and one that requires more study is that of the social mix. *Where* one lives in a metropolitan area is very closely bound up with questions of status or with attempts to conform to the standards adopted by the group with which a person aspires to be identified. In dormitory suburbs, these standards are closely defined in terms of housing as well as locations. It appears unlikely that we can exorcise the desire for status and position, as they are associated with deep-rooted social needs. However, enough experience has accumulated to suggest that the hunger or need to be respected and well thought of can be satisfied in very different ways and does not necessarily imply the extremely wide differences in styles of living, and especially housing, that now characterise the United States and, in an extreme case, characterised the United Kingdom of the eighteenth and nineteenth centuries, or France in the period of the great chateaux. This possibility merits close study. Even in times of great differences in income, the well-to-do were apparently satisfied to live in semi-detached housing (in American terms, 'row' housing or 'town' housing) *provided* others of their 'class' also lived in such housing. It was not even necessary that all people in the neighbourhood should be of their income groups as long as a 'sufficient' number were (what is a 'sufficient' number is a neat question). Usually, the pricing mechanism insured that the most desirable housing and certain situations were reserved for the well-to-do.

The point is that both the 'snob effect' or the 'keeping up with the Joneses effect', can, if necessary, be satisfied with modest as well as great differences in styles of living. Often only a terrace will be sufficient to convert an apartment into a 'penthouse', commanding a much higher price, but not adding to the cost of building. Hence the penthouse enables some averaging of costs to be obtained and lowers the price of the other apartments.

Something similar is being done in Jurong Town in Singapore where 'executive suites' are being provided in high-rise buildings that from the outside appear little different from high-rise, low income

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[1] A writer who sees mass transport as a solution blithely estimates that by the 1990s some 1,000 billion U.S. dollars will have been spent in urban mass transit systems which will make 'the outlook at least slightly better'. Carrol Carter, 'The Automobile Dilemma', *Impact*, Vol. V, 1973.

housing a few hundred metres distant. This provides a better social mix and enables the public corporation responsible to do some averaging out in costs, rents and selling prices. Again, it must be repeated that in a non-socialist country, some differences in housing and location must probably be provided, but *nowhere near so great as now exists*. Within this limitation much progress is certainly possible, though undoubtedly it is a subject that must be approached with great care. The more success in achieving this objective, the greater, probably, will be the creation of social values that can be captured, the less the traffic by personal cars, the less the deprivation effect and the greater the consequent increase in well-being (or reduction in 'ill-being') and the less the diversion of productive resources in satisfying the desires for more expensive styles of living on the part of the well-to-do.

In general, the criterion of valorisation, or the rise and capture of the 'social increment', will be best satisfied the more compact and the larger the new city and the larger the income *per capita*. Hence, the attainment of this criterion is closely associated with the criteria already discussed. The more it can be attained, the more that inequality arising from the private appropriation of socially created wealth will be lessened, and the nearer the approach to the ideal of an egalitarian society. One beauty of this approach is that it avoids social conflict and develops naturally as a by-product of better urban planning.

A corollary of this criterion is that the more a public corporation can obtain and retain ownership of land, the more will the rise in land values accrue to it. Other ways of accomplishing the same result, at least in theory, are the requirement of short term leases, the continued ownership of apartment, office, commercial and industrial building by the corporation, the granting of licenses for a limited number of activities (such as a petrol station or a liquor store). Again, it is obvious that the larger, more compact and better off the planned community, the greater will be the sources of revenues from these various sources.

The criteria of attractiveness, while most important, needs little discussion. It is desirable that the community create its own image and identity, that residents should, so far as possible, feel that they are residents of a neighbourhood and of a city, that adequate community facilities and opportunities for

diversions be at hand, that schools be sufficiently good and abundant so that daily busing will not be indulged in, and that, so far as possible, personal and property security be assured by proper design and in other ways. Various ways to achieve these objectives come to mind. For one thing, it is probably desirable that different cities should be planned and designed by different people, that a separate corporation be charged with the construction and management of each city and shall have its headquarters in the city, that 24 hour guards and maintenance crews be provided to look after security and building operation problems such as breakdowns in plumbing, light, and elevator services. Every opportunity must be seized to make it unnecessary for residents to go outside the confines of the planned centre for the affairs of ordinary, daily living.

Reference has been made frequently to the desirability of both compactness and walkability. The attainment of these criteria necessitates adequate open space, playgrounds and space for work, either in offices, stores or factories. Two obvious solutions are the resort to a number of high-rise buildings and to saving space now devoted to streets and parking areas (often 25-30 per cent of the entire area). Roofs of some buildings may be designed as play areas. Communities may be designed so that no building is more than 250 metres from circular bus routes with frequent service, as in Runcorn, England. Flatted factories for clean manufacturing and assembly may be placed close to apartment buildings, as in Singapore, with supervised infant schools and play areas, especially for the convenience of mothers who wish to supplement the family income.

One of the most difficult yet important criteria is not only the matching of employment and housing by numbers but in addition the assurance that people who live in a community will also work there, or who work there will also live there. At first sight, all that appears necessary is the provision of sufficient employment. But if the community is attractive, people who work elsewhere may wish to live there. If property values and rents rise, people who work there may prefer to find cheaper quarters elsewhere or feel they cannot afford to live there. Both of those phenomena have occurred in Columbia, Maryland. While this is perhaps not so serious in the United States, which can still afford to live extravagantly, its occurrence in a developing country would defeat one of the primary objectives of the

urban design. What, then, can be done to reduce excessive movement?

It would appear that care must be taken to insure that living accommodations are within the price range of all or most of the people working in the community; that sufficient differences in quality of apartments be provided to attract the better-to-do who may work in the community; that people who live in the community and work elsewhere pay in some way for the additional cost which this occasions.

Although prior care may be taken to provide apartments within the income capacity of the expected employment, this is an extraordinary difficult thing to do much in advance. The most practicable solution would appear to retain ownership of apartment buildings and hence to retain the capacity *to vary rents to meet necessities*. Ownership of the land provides some degree of flexibility in new building to adjust to changes in demands as the community develops. Another reason for retaining ownership is that it permits the public corporation to charge lower rents for people working in the area (or higher rents for residents working elsewhere). Private ownership of apartments makes it very difficult to exert much influence thereafter on people's decisions where to live and work.

This objective, as noted previously, raises some question of the desirability of providing rapid peak hour transport capacity from the new city to the old centre or to other new cities. Clearly, transport facilities are assential, but there is no point in trying to provide new cities with all the transport capacity that a mono-city with suburbs requires.

The point is a difficult one in which some compromise may be unavoidable. Many people like to own their apartments and it is argued that one takes better care of one's own property. On the other hand, the reduction of movement permits the diversion of resources to the attainment of highly desirable social objectives of greater equality in living, education and so forth and makes the planned community more attractive. As with most of the criteria discussed above, alternative courses of action must be weighed, trade-offs and compromises are unavoidable and certain objectives must be sacrificed for the attainment of others.

Many will doubtless object that the cost of the design is prohibitive for developing countries. This objection can be considered in both its financial and physical aspect. Providing adequate incentive to savers through indexing, channelling the funds through to the financing of planned communities instead of endless dormitory suburbs, and capturing the socially created rise in land values by continued public ownership, will look after the financial cost. Better utilisation of human resources and native building materials can permit a higher rate of building without reducing the satisfaction of other essential needs. For some years building in Singapore amounted to 14 per cent of the G.N.P. The savings in personal transport alone would be enormous (obviating the need, for example, of a subway to handle the peak hour traffic of a ten million population mono-centred city).

The reduction in rents in low income housing made possible by the steady growth in rents in commercial centres and high income apartments permit hidden subsidies to be given. It may not always be possible to build for the very poorest, but at least, through a process of escalation, they can move into existing housing while people with some equity can move into the new apartments requiring a 20-25 per cent down payment. It must always be kept in mind that up to now no serious attempt has been made to exploit to the full the capture and use of socially created value arising from planned new city construction.

Conclusion

It has been argued in this paper that for developing countries a continued period of economic growth is desirable to provide an acceptable minimum of consumption and of services of health, education, and diversions, and to provide a favourable environment to encourage the reduction in size of families. Growth implies higher efficiency or productivity per person. In sectors where the income elasticity for products is low, as in agriculture, this means a relative and probably an absolute reduction in the number of workers. To accelerate the rate of growth and provide better paying jobs for workers no longer needed in slow growing sectors, we require rapidly growing cities, which in turn provide a motor of accelerating growth in the whole economy.

But urbanisation raises its own problems, which are widely known. Hence the task of the urban planner who would fit urban design into this framework is to accept a rapid growth in urbanisation but seek, at the same time, to avoid or lessen the

evils or disadvantages associated with rapid growth. It was suggested that the concept of cities-within-cities, or a cluster of cities making up a metropolitan area, might provide the solution. The adoption of this concept, however, implies a radical revision in traditional urban thinking in mixed economies on the role of the pricing system, and the free market, and on the provision of transport facilities. It requires the substitution of public ownership of land for reliance on zoning and norms to implement Master Plans. It substitutes, especially for developing countries, the concepts of clusters of cities with a higher degree of walkability, compactness and high densities, for suburbs with low densities and enormous emphasis on costly traffic solutions. It suggests that not only personal transport but *any form of transport* is not a good alternative to proper urban design.

While the revision in urban planning appears radical, there do exist precedents, and the rewards of success are great in reducing the deprivation effect, in diverting expenditures from transport to meet other more urgent needs, in providing a means of creating and appropriating social values arising from growth, in providing a virtually unlimited demand for savings and for the use of productive resources to accelerate the growth process in ways that are socially desirable. Growth to-day, in almost all countries, rests on and is fed by the drive to overcome the deprivation effect. It is proposed to substitute the driving force of building planned cities for at least a portion of existing drives, and so to lessen the prevalence of the deprivation effect, since differences in life styles can in this way be less pronounced in a wide and important range of activities.

The emphasis of this paper has been on the co-ordination of national and urban planning in developing countries. France, a relatively affluent country, is pioneering the application of the basic concept to accommodate the growth and restructuring of Paris and four other metropolitan centres, though the private car is so entrenched that the reduction of its use may prove very difficult. While the problem of applying the cluster principle to the existing urbanised areas is more difficult, it can be done and the possible rewards would seem to make the effort worthwhile and so permit the gradual escape from the intolerable and highly unstable conditions resulting from unlimited suburbia and personal transport.