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John C. Turner
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PLEASE SCROLL DOWN FOR ARTICLE
BARRIERS AND CHANNELS FOR HOUSING DEVELOPMENT IN MODERNIZING COUNTRIES

John C. Turner

Many of the squatter communities of Latin America offer uniquely satisfactory opportunities for low income settlers. They are characterized by "progressive development," by which families build their housing and their community in stages as their resources permit, the more important elements first. The procedures followed by these self-selecting occupant-builder communities, free to act in accordance with their own needs, enable them to synchronize investment in buildings and community facilities with the rhythm of social and economic change. Official housing policies and projects, on the other hand, attempt to telescope the development process by requiring minimum modern standard structures and installations prior to settlement. Such "instant development" procedures aggravate the housing problem by disregarding the economic and social needs of the mass of urban settlers in modernizing countries.

To suggest that planning and building codes designed to improve and maintain modern housing standards have the opposite effect in many parts of the world may seem heretical. While preparing a paper for the United Nations on the subject, I however, I found that experience in many developing countries indicates that they do. The planning concepts derived from the experience of modernized countries are frequently inapplicable under circumstances typical in the modernizing countries. It thus is clear that the question should be discussed widely and openly.

The argument, briefly, is that the principle of "minimum modern standards" is based on three assumptions: that high structural and equipment standards take precedence over high space standards; that households can and should move when their socioeconomic status has changed so that they can afford to have a larger (above minimum) standard dwelling; and that the function of the house is, above all, to provide a hygienic and comfortable shelter. While these assumptions are valid in the United States, Europe, and the USSR, they do not hold true for such countries as Peru, Turkey, and the Philippines.

Observations of what ordinary families in urbanizing countries do, when they are free to act as they will, show that they prefer to live in large unfinished houses— or even large shacks—rather than in small finished ones. As Patrick Geddes wrote half a century ago in India: "I have to remind all concerned 1) that the essential need of a house and family is room and 2) that the essential improvement of a house and family is more room." The typical family, earning an uncertain wage in an unstable economy which provides little or no social security, depends heavily on property for security—especially while undergoing transition from the status of recently to fully urbanized. For such families, the vast majority in the cities of urbanizing countries, housing is a "vehicle of social change." Geographic stability is thus often the agent of social mobility than the reverse, which is more generally true in the fully participating sectors of modern society. I have never come across a home-building family in barriadas of the kind described in this article that was not building for their children and that did not also hope and expect their children to achieve a higher social status. Charles Abrams, who has observed squatters in every continent, notes that "when tenure seems secure the foundations are made firmer." Thus squatters are "less worried about what they
will build than where they will build it and less concerned about initial standards than about initial layout. Rancho houses (squatter houses) will improve with time and with better economic conditions if the rancheros are given a stake. Few planners and administrators agree with Abrams yet, but even fewer of the ordinary people would disagree. Secure possession of land where they can live now is far more important to them than the promise of a modern house that may never materialize. But given the land and the right circumstances—that is, adequately located, properly planned, and with secure title—experience has shown that development to contemporary standards will surely take place, even if slowly.

The imposition of modern minimum standards on popular urban housing in a transitional economy is an assault on the traditional function of housing as a source of social and economic security and mobility. By requiring a heavy financial outlay initially and by leaving little room for the investment of nonmonetary resources, modern standards delay the processes of urban settlement and resettlement and aid slumlords and land speculators. Unattainable standards increase the demand for and the cost of slum housing and worsen slum conditions. By eliminating all low income and many middle income groups from the market, such standards encourage the tendency to invest in unused building land rather than in housing construction.

In cities where the majority of the population live in slums and cannot build needed houses because they cannot afford the costs of land and construction, it is hardly surprising to find that a great deal of urban settlement and resettlement takes place independently of the legislative and commercial systems. The experiences of certain Peruvian cities are typical of urbanizing countries. During the past 25 years the population of Lima has trebled from less than 700,000 in 1940 to an estimated 2,100,000 today. In the same period, the squatter population has grown from an unrecorded and relatively insignificant number in 1940 to a conservative current estimate of 25 percent. As in other urbanizing countries, the situation in provincial cities is even more alarming. In Arequipa, the second largest city of Peru with a population of approximately 200,000, 50 percent are reported to be living in the urbanizaciones populares, clandestine lower-middle and working-class subdivisions, almost entirely on marginal desert land belonging to the State. In 1960, on the basis of a fairly thorough analysis of a previous census and a sample survey, I estimated that only 22 to 23 percent of the urban population at that time was then resident in this kind of settlement.

With squatter settlement growth rates of 12 percent or more per annum in Mexico, Turkey, and the Philippines as well as in Peru and many other countries—double that of city growth as a whole—it is hardly exaggerating to say that city development is out of control. During the past two decades the major towns and cities of Peru have trebled in area and population; they now represent approximately 30 percent of the country's total population. Two-thirds of this recent growth, (about 10 percent of the population or 1,000,000 people) is composed of squatters who have done more city building in terms of settlement than has been achieved during the previous 400 years. So, in spite of the increasing realization of the necessity for urban planning, and the great need for an orderly infrastructure for economic development, city growth in the urbanizing two-thirds of the world is becoming increasingly chaotic.

This absence of a central concern for the city's role is related to the deepening crisis that cities in all parts of the world are facing: massive unemployment, squatting and squalor in the developing preindustrial countries; . . . . Consequently, the city is a poor habitat, not only for man but for industry and trade. Chaotic in form and destructive socially, the mushrooming urban disarray creates a new impediment to economic growth.

The hypothesis on which the arguments in this article are based is implicit in the claim that the standards required by the authorities (and practiced by institutional and capitalist enterprise) conflict with the demands of the mass of urban settlers. The loss of administrative control over urban settlement and the frequently chaotic conglomerations of inadequate structures which make up the greater part of contemporary city growth in the modernizing countries are a product of the gap between the values and norms required by the governing
The development of Cuevas from 1961 to 1966.
institutions and those imposed on the people by the circumstances in which they live. The greater the gap between the nature of the officially recognized supply of housing and the nature of the popular demand, and the greater the demand in relation to the police power exercised by the authorities, the greater is the proportion of uncontrolled settlement.8

CASE STUDY OF A BARRIADA
THE INVASION

The best and perhaps the only way to illustrate these principles is to describe the situations which have lead to their formulation. The following description is a composite case study very largely based on one particular squatter settlement on the outskirts of Lima. Pampa de Cuevas is perhaps the nearest thing to a model barriada of its type. Established fairly recently (in 1960), in a more than usually favorable, but otherwise typical location, the settlement has a population of approximately 12,000. Cuevas is one of the type of barriadas populated by families moving out of the city slums, where the adults have lived about ten years before moving. Many of them are of recent previous provincial origin, but are not in the lowest income groups and are not without some urban experience.10 This contrasts with another basic barriada type, formed by people with very low incomes and living standards, whether the urban-born poor or rural immigrants, and the commercially established tenement slums which have much higher densities and are almost always located near employment centers. Settlements of these latter types serve as "bridgeheads" or urban toe-holds, enabling the very poor to live cheaply and to obtain work more easily by living within walking distance of principal markets and employment areas. Cuevas, which is not within walking distance of either, is an unsatisfactory location for down-and-outs or for ambitious but still very poor migrants. The great majority of its inhabitants are young families with more or less steady incomes. They are poor but represent the average rather than the below average wage-earning sectors and, as the rate of physical improvement of the average dwelling indicates, they have maintained an appreciable rate of upward mobility.11 I am not, therefore, about to describe a version of the classic shantytown: "...the rudest kind of slum, clustering like a dirty beehive around the edges of any principal city in Latin America" where "living almost like animals, the tugurio's residents are overwhelmed by animality. Religion, social control, education, domestic life are warped and disfigured."12 Cuevas, along with at least two thirds of the barriadas of Peru, the majority of the colonias proletarias of Mexico City, or of the Gecekondu of Ankara, can be more appropriately described as self-improving suburbs than as "slums."13

The history of a settlement must begin with a description of the original settlers and their motives for settlement. As is now clear, the necessity of squatting may occur in quite different circumstances in the same city or at different stages in the life of the same family: The recently arrived migrant may be forced to squat if unable to find or afford other accommodation or, on the other hand, the wage-earning family that cannot afford tolerable accommodation or that desperately needs the security of home-ownership may also be forced to squat if there is no alternative.14 The great majority of Cuevas settlers were motivated by the desire to escape the tyranny and insecurity of paying high rents for miserably poor conditions. For the average family of five or six with an average monthly income of about $90 (United States dollars) there are only two legal alternatives: to wait until the family's income has risen sufficiently (or until it has accumulated sufficient savings) to buy and build in the lowest-priced subdivisions, or to wait for the chance to get a subsidized government project house. Many families, for reasons explained below, reject the latter alternative, even when they are among the small minority to whom the opportunity is presented. The great majority prefer the illegal alternative of squatting if the prospects of obtaining de facto possession are good, even if very considerable sacrifices must be made to get a plot and to build.

The original Cuevas settlers, about 500 adults from different parts of Lima, formed the "Asociación de Padres de Familia Pro-Vivienda," a community association for housing, in December, 1959. Just how this particular group was formed I do not yet know,15 but the case of El Ermitaño, adjacent to Cuevas, is typical. The Ermitaño association was organized by a self-appointed committee in 1962.
Squatter invaders waiting to enter Pampa de Cuevas during negotiations between their leaders and the police. The banner reads “Union de Madres Necesitadas.” Credit: Caretas Magazine, Lima.

which claimed to be the successors of an earlier association that in 1945 had applied to the ministry of Public Works for permission to develop the land the new association intended to invade. Having received no answer, the organizing committee maintained a certain claim to the land, even though it was somewhat tenuous and of a moral rather than legal character. It was enough, however, to guarantee the support of the “Frente Único de las Barriadas del Peru”—a confederation of barriada associations which commanded some political support and lobbying influence. With moral reinforcement and the probability of some political support, a group with access to a good site and with enough members to provide sufficient funds (to defray expenses and to compensate the organizers for their efforts) will be ready and prepared to invade if no other course is open to them.

The Cuevas invasion took place the night of November 17, 1960. The police forced them off the land and the invaders, several hundred men, women, and children, camped along a nearby railway embankment while their leaders negotiated with the authorities. The government was particularly anxious to avoid further invasion at that time because it was about to promulgate a law designed to prevent further invasions and squatting by providing low-cost building land. The owner of the adjacent land, a wealthy man with political influence, was also strongly opposed to the invasion which he saw as a threat to his property. Future events justified his fears. The invaders were allowed, however, as a “temporary measure” to set up an encampment on a part of the land on Christmas Eve, five weeks later.

Either unknown to the authorities, or disregarded by them, the association contracted five topographers (elsewhere reported to have been students of civil engineering) to set out the blocks and individual plots. The plots were to have been 10 by 20 meters (about 2000 square feet), but the majority were in fact only 8 by 16.5 meters. The association paid about $1,000 for the work, which took two months to complete. Ostensibly, the permission granted to the invaders to camp on the land was strictly temporary and was to allow time for the allocation of an alternative site. Over Christmas it was hardly humane—or even politic—to let so many apparently desperately poor families continue to live in the open. The families themselves, or their leaders, had timed the operation well and had correctly calculated that, once on the land, they would have de facto possession. The
invaders, therefore, were prepared to risk their funds for the layout plan and, as soon as it was completed each family transferred its temporary shack (made from woven cane mats wired to a light bamboo frame) to the plot allocated to it by the organizers.

During the first five weeks, the squatters had lived, literally, in the open. Although it was during the summer, when there is no precipitation in the Lima area, camping with no equipment to speak of was a considerable hardship. But, given the hope of a building plot of acceptable size on level land reasonably near the city and adjacent to a public transport route, a large number of people were prepared to sit it out indefinitely, rather than return, defeated and demoralized, to the city slums and high rents from which they had escaped. As soon as the encampment on the site was established, the association organized a school which provided primary education to adults as well as to children, and many set up shops for vermicelli, candles, inca-cola, and other essentials. At first everything, including water, had to be carried up a footpath, but once the families had moved to their own plots an access road was made through the cultivated land which separated the site from the main road in spite of the landowners' protests. Shortly after the invasion many certainly felt themselves to be far better situated than they had been in the slums. Even with such primitive beginnings, a major part of their housing needs were satisfied. In the first place, each family had a fair sized plot of land rent free and with little or no fear of eviction. In terms of space, sunlight, and unpolluted air their shacks were a vast improvement over the dark, unventilated, and crowded rooms on narrow, smelly, and noisy slum courts. There are hardships and expenses in Cuevas, such as having to buy water from doubtful sources at exorbitant rates (usually about 15 U.S. cents per gallon drum). The lack of electric light reduces the opportunity for social life and study and increases a sense of physical insecurity (although there seems to be far less violence in the barriadas than in the city itself). On the other hand, the absence of the extremely inadequate number of poorly maintained communal toilets with which the slum courts are equipped is little or no disadvantage when there is plenty of space for individual pit latrines. Transportation cost for the family as a whole is generally greater than before but the extra cost rarely surpasses the saving made on rent as long as there are primary schools and basic shopping facilities in or near the settlement itself. So, even for the minority of families whose cash expenditures are slightly greater than before (through having to buy water or spending more on fares) the net gain in improved conditions is generally appreciable and with regard to personal security it is invariably considerable.

As the security provided by the possession of a homesite is the settlers' first concern, top priority is given to action that will consolidate tenure. If there is no way of obtaining title legally and at short notice, and if the precedents show that once settled land of low value is rarely reclaimed, then the surest way of ensuring permanent tenancy is to settle firmly on the land. The squatting associations therefore demand that their members build as soon as they take possession of their allocated plots, so all who can do so, even if it is only to place some foundations. A current anecdote in Lima tells how the government sent bulldozers to clear an invasion of cane matting shacks. The first flimsy shack approached, however, stopped the bulldozer dead in its tracks. It concealed a solidly built structure of reinforced concrete. Though probably no more than a fable, the moral is none-theless clear.

Apart from building to consolidate tenure—and invest savings before there are further increases in the cost of building materials—there is, of course, the need for a permanent house. The possible sequences of operations and orders of priority between the components of the dwelling structure 47 will be largely determined by the climate and the economic situation or expectations of the settler. Where there is little or no rainfall, as in Lima, it may be more appropriate to enclose the plot with a perimeter wall than to build two or three rooms with permanent roofs. The perimeter wall provides privacy and an improved micro-climate in which the discomforts of a shack are greatly reduced; the family is no longer pestered by neighbors' dogs and children, they are more secure against
Top: Cuevas in 1961, shortly after the invasion.
Credit: Servicio Aereofotografico Nacional of Peru.

Bottom: Cuevas approximately one year after invasion.
Credit: A. Rojas, Junta Nacional de la Vivienda, Lima.
pilfering, and have, in effect, a spacious living area, even if the rooms are temporary shacks.

During a discussion of priorities of services and structures, one of the leaders of the Cuevas barriada argued forcefully for first maintaining perimeter walls until public utilities were installed, then building a bathroom unit, and only after that, beginning the rest of the structure.18 This man, the secretary of the barriada association, felt that it was important to invest first in the improvement and installation of community facilities, then in public utilities, and finally in individual structures. Most barriada settlers, however, would give the dwelling structure—the first few rooms anyway—a higher priority than the installation of public utilities. But judging from the results of a series of conversations held in Cuevas, most settlers evidently place as high or even a higher priority on the provision of community facilities or services such as schools, markets, meeting rooms, medical facilities, a parochial center, and a police post than they do on the completion of their own dwelling. These facilities and services, even more than public utilities (with the possible exception of electricity), are a greater asset than a finished house. Observations of what settlers do in fact agitate for and attempt to install, support the statement of the United Nations Ad Hoc Committee on Housing in its report of February 21, 1962: “From the family's perspective, . . . housing is not 'shelter' or 'household facilities' alone, but comprises a number of facilities, services and utilities which link the individual and his family to the community.”19

While the order in which community services and public utilities have been installed—or attempted—has been partly determined by economic, technical, or administrative practicality, there is a close correspondence between the actual program of operations and the "practical ideal" formulated by the community housing group mentioned above. The indispensable components were provided, albeit crudely, at the very start. Even before the settlers moved onto their own plots they had a water supply, public transportation (at the main road), an elementary school, retail facilities, and basic shelter (in the encampment). In 1962, about 18 months after the invasion, a permanent primary school, a medical post, a police post, and a chapel had been built. (The latter guaranteed regular visits from priests of a particularly active and highly regarded foreign missionary order.) In the following year a secondary school was established and the area became a separate parish with resident clergy. In 1963 the association also contracted with a private entrepreneur for the installation of electricity. The system was installed and put into operation for a short time with generators powered by a second-hand diesel ship's engine. Unfortunately there was a disagreement with the contractor who eventually withdrew his equipment at considerable loss to himself as well as to the inhabitants of Cuevas. Since then the only electricity available has been from small generators installed by individuals who supply current (at about $2.00 per 50 watt lamp per month) to their immediate neighbors. In 1964 the government installed a provisional water supply but this had not yet been put into operation by the fall of 1965. During 1964 and 1965 the government built several additional schools and a private clinic. A land use survey made in June, 1965 revealed a total of 218 retail shops (mostly very modest businesses of more social than economic value) and 14 artisan workshops. Dressmakers', dentists', and electricians' signs, among others, can be seen today. A sample of the dwelling structures surveyed showed that permanent construction had been started on 80 percent of the plots and 42 percent had walls completed to roof height. Only 9 percent, however, had a finished first floor structure and only 2 percent had started second floor structures.

In 1965 Cuevas became the center of a new municipality incorporating two adjacent settlement areas. In November, 1966 municipal elections were held and, administratively, Cuevas became a fully incorporated part of the city.20 Physically, however, much remains to be done. No public utilities are operating yet, only a few houses are structurally complete, no roads have been paved, and there is not a single tree because water is not yet piped in.

More serious is the fact that all along the perimeter, creeping up the surrounding hillsides, is a steadily expanding belt of new shacks, many of which are occupied by the poorest sector. This peripheral growth (which in fact started as soon as
View showing the various stages of house development.
Credit: J. C. Turner

Main Street of Cuevas, March 1963.
Credit: Eva Lewitus, Foto Art, Lima.
the area was occupied, probably by those who could not pay the dues or who were late-comers) now threatens the future status and development of the entire settlement. The resident priests estimated that the population of the barrida had increased from 9,000 to 12,000 between 1963 and 1965. This is partly accounted for by a normal and healthy increase in the density of the planned area where a proportion of plots remain unoccupied, but part is also due to the ring of “sub-squatter settlement.” Its existence could well frustrate efforts to bring the rest of the area up to modern standards—which should be only a matter of time—by reducing the status of the neighborhood and the value of the properties. Those with the greatest expectations and social mobility are therefore likely to leave, further downgrading the area and perhaps leaving it to degenerate into a slum before it can develop its potential. Thus, in spite of the remarkable progress that Cuevas (and many other similar areas) has made to date, its future is by no means assured. What happens now depends very much on the nature and the effectiveness of the aid it receives from the municipal and central government authorities.

Whether the settlement as a whole will down-grade the adjacent and as yet undeveloped urban land, or whether its presence will hold potential development in the area at a low level, also remains to be seen. Presumably, Cuevas’ influence will depend on the nature of its development. If the community achieves the level it is at present capable of reaching—that of a working and lower middle class neighborhood—there is no reason why adjacent land values or development should be damaged. Both the public and private sectors, therefore, as well as the actual inhabitants, have a considerable vested interest in Cuevas’ continued development.

The most striking thing about this type of development is the spontaneous mobilization of human and material resources—spontaneous in the sense that it has taken place independently and even in spite of the public institutions. If governments could induce the same initiative, efforts, and sacrifices for their own housing and urban development policies, both living conditions and the rate of economic growth would be immensely improved. Scarcely less striking is the contrast the spontaneous popular settlement process makes with the “normal” subdivision and construction procedures required by law and practiced by capitalist and state enterprise. If the latter procedures were preferred by squatters and would-be squatters the differences might be dismissed as being the inevitable consequence of the violation of law and the failure of the government to provide low-cost housing. But the more traditional popular procedures are not only a logical response to the economic and social circumstances of modernization, they are actually preferred by the great majority of the people concerned.

This fact is less surprising after one has examined the main differences between “popular” and “official” norms in the light of the human situations and experience involved. If we start by comparing the typical programs of operations, the advantages of the popular program are immediately clear: In a society that does not possess, or which cannot mobilize, the necessary material resources to build complete modern minimum standard units for all who need them, each family must wait its turn. Generally, the wait is very long, the best part if not the entire time that the applicants are parents of young children. The squatter’s procedure of occupying his plot as soon as he obtains possession, living initially in any sort of shelter he can manage, allows the family to improve its living conditions and to become far more independent at a much earlier and a more active stage of life. Even if they have to pay for the land at commercial rates, the typical family will still jump at the chance to follow this procedure (as a recent clandestine sale of building land adjacent to Cuevas has shown). The sequence of operations subsequent to occupation is also radically different. Official norms give priority to residential construction and the installation of public utilities. The popular procedure is to provide community facilities and services before either dwellings or utilities. Since security of tenure is more important than physical comfort (especially in this favorable climate) and since security of tenure is enhanced by a reduction in the cost of living and the presence of medical and police services, the advantage is clear.
Finally, the disadvantages of orthodox modern “instant” as opposed to initially primitive “progressive” development are considerable, both economically and, once again, from the social security point of view. If capitalization takes place at one fell swoop it must be financed on the basis of long-term credit. Credit is very scarce in a developing economy and thus the cost of an instantly built, fully or semifinished housing scheme is very great. Even if the interest rates are heavily subsidized by the state (greatly reducing, of course, the number of units the state can finance) the cost of the most economic orthodox housing schemes still impose a long amortization period on the beneficiaries. A long-term mortgage can also greatly reduce the occupants’ security of tenure. The official procedure, therefore, is doubly disadvantageous: it forces the great majority to live in rented slums for many of the years that the need to own a home is greatest, and once a home is obtained they are saddled with a long term debt which threatens the very security which they seek through ownership.

The outstanding physical advantage of “progressive development” over the “instant development” procedure—apart from an early escape from overcrowded and unhealthy slums—is that the families’ living areas are generally much larger at an appreciably earlier stage of construction. The progressive developer often provides much more living space than in the average, low-cost instant development scheme. If given the choice, many of the readers of this article would prefer a living area of 700 or 800 square feet enclosed by cane mats lined with newspapers rather than a brick or concrete house half that size and 15 times the cost. Besides offering more living space, the great majority of barriada dwellings have roofed areas of over 1,000 square feet per floor, and virtually all are designed to take a second floor. In one barriada begun some 12 years ago, a large proportion of the dwellings have second floors under construction or already habitable. From an analysis of six typical barriada dwellings it is evident that after approximately 20 years of construction without any outside financial assistance, a two-story house with a total floor area of over 2,000 square feet can be completed for the same outlay that a government sponsored instant dwelling of half the size or less would cost, even when the administrative overheads and credit financing are heavily subsidized.

It has been stressed that the investment programs naturally reflect both these differences and the advantage of reducing the need for credit to a minimum or of eliminating it altogether. The other vital economic advantage of progressive development is that it permits and stimulates the investment of nonmonetary resources—those that are in most abundant supply in a developing economy. The cause of the great difference in the financial costs of “instant” and “progressive” construction (the former costing at least 100 percent more than the latter) is that the owner-occupier-builder provides other resources in the form of initiative, skills, and time. The time, patience, and bargaining skills of most wage-earning families together with the myriad contacts through workmates, friends, and relatives often results in remarkably good value for precious money spent on materials and on hiring skilled labor. This is true in spite of the fact that substantial help from relatives or even neighbors seems to be quite rare as a spontaneous or traditional attribute of these newly forming communities.

An additional “product” of progressive development is its stimulation of social development through the cultivation and strengthening of the family and of the positive attitudes and relationships to society that the satisfied family acquires. These are qualities which elude quantification but which are, perhaps, the ultimate test of the validity and value of any activity. Anyone who doubts the reality or existence of such “products” has only to spend a little time among people who are working in these ways.

A further very serious problem often created by “instant” housing projects and one that is now receiving the anxious attention of many authorities, is the social stratification and subsequent stagnation of the communities formed. An important difference between the groups formed by officially sponsored projects and squatter settlement communities is that of the criteria and procedures for participant selection. The financial liabilities and sociopolitical risks of projects that depend on the recovery of capital from people with low and uncertain incomes...
automatically imposes a demand by those responsible for the careful screening of the prospective "beneficiaries." The taxpayers' representatives are likely to require that accommodation be provided only for those who are either financially able to afford the costs involved, or politically acceptable by being the "deserving poor" who most need subsidies. The resultant social groups are stratified either way: if selected on the basis of economic capacity they are narrowly lower-middle-class or, if on the basis of need, they are narrowly lower-class.

In neither case will one get the mix necessary for social change and development. Squatter settlement selection is more orthodox in the commercial sense because no attempt is made to match precisely the consumer and the product. Anyone who decides that he would do well by participating in an invasion is free to do so. A mid-wife, a dentist, or a retailer, for example, might well decide that their livelihood could be ensured by becoming a participant member of a squatter community. In this way the initial socioeconomic composition of the squatter community is far more likely to include the necessary elements for social and economic balance and development than a screened project community. Furthermore, as long as the squatters, as an auto-selected community, experience a reasonably continuous rate of progress, diversification will increase. In an adequately located progressive barriada where the basic land use pattern is sufficienty flexible (as the simple grid-iron systems generally employed usually are) social diversification will be matched by a growth of industrial and commercial activity. The more there is going on and the more people there are with whom one can have contacts, the more opportunities the poor have of improving their status. The policy of limiting the allocation of housing units in specific projects to specific income groups—and of imposing specific housing types—naturally limits the social mix and inevitably increases the administrative costs both in the short and in the long run. The progressive development procedure virtually eliminates the necessity for direct subsidy, however, and therefore eliminates the motives for socioeconomic selection.

Contrary to the beliefs and arguments of many opponents of "progressive" development, the process provides for relatively high urban densities. It is frequently held that progressive development procedures, which demand one-family housing, is uneconomic because of the immense areas required and the consequent increase in the spread and costs of urban services. In the case of Lima, this argument collapses on close examination. In the first place, during the earlier phases of development, the demand and need for urban services are very limited. Initially, sewers and even water mains are unessential. The difference in time for public transportation, if only a matter of minutes, is negligible in cost terms. An efficient bus service requires very little capital and, in any case, is usually a commercial proposition. By the time sewers and water mains are essential the densities are great enough to justify them. The potential density of the average progressive development settlement, like Cuenas, is 160 persons per acre, in single-family dwellings and in structures of no more than two floors. This is assuming that no structures are higher than two stories and that every purely residential property would house an average of one and a half families, a reasonable assumption considering that the majority of second floors are built for children's families or for rent.

If this development procedure is adopted by the planners, and its administration is given over to local authorities, there is no reason why a proportion of land should not be put in public ownership to ensure some flexibility, particularly the attainment of higher densities when circumstances justified them. In the earlier stages, for instance, a market could be a collection of stalls on an open plaza, later to be occupied by shops and apartments. Similarly, cheap one-story rental tenements, municipally owned and administered, could be later replaced by multistory apartments. Land values, in any case, are likely to rise as metropolitan expansion leaves the neighborhood relatively closer to the city core.

Normally the walk-up apartment solution imposes a relatively low density, but in fact there is very little difference between the residential densities of typical walk-up apartment projects and the potential and probable future density of Cuenas. Exceptionally, as in the case of the 7-story walk-up, one-room apartment blocks of Hong Kong, very high densities can be achieved. Only very
rarely, however, are such solutions likely to be socially and politically viable. The more orthodox and socioeconomically practical “high-density” developments for families with very low incomes rule out the “progressive development” procedure. In relation to the incomes and amortization capacity of the beneficiaries, low-rise, relatively high density developments require excessively high initial capital outlays. That the financial economies achieved through a slight—or even appreciable—increase in residential density will be sufficient to compensate for the financial and social economies of the “progressive development” procedure is very doubtful. The spatial economy of initially high density residential development (for owner-occupiers) rests on the false assumption that the residences must be fully equipped to modern standards, whatever the economic situation and real needs of the inhabitants or, alternatively, on the so far unjustified fears of excessive land consumption by modern growth.

**CONCLUSIONS**

The argument for progressive development and against “instant” development based on modern minimum standards can best be summarized by considering the priorities between the basic functions of the dwelling environment in relation to the changing life-situations and consequently changing priorities between the physical components of the environment. It has been argued that the order of priorities between the basic components for popular housing—in the wider sense—are the reverse of those required by official standards. The average lower income family seeking a home in an urban environment wants secure land tenure, community facilities, an adequate dwelling, and utilities in that order. The state offers the exact opposite: a modern (but minimum) house in the first place, some community facilities (generally at later stages), and eventually, title to the property after the mortgage has been paid off. This latter procedure, however, is generally preferred by the middle income groups, whose social and economic security depends far less on home possession than it does on occupation and social status.

Further, in a developing free-market economy, they also have access to insurance as well as to banking services and financial credit seldom available to the lower income sector. Since the socioeconomic security of the middle-income family depends more on the material status of the dwelling they occupy than on actual ownership of it, the “progressive development” concept is, understandably, anathema. The unconscious transference of middle-class values to the designs and plans for the lower classes is, undoubtedly, the main reason for the emotionally loaded opposition of most technicians and administrators to the idea of permitting—still less of encouraging—people to live in an only partially completed environment, and of their apparent blindness to its obvious potential.

The significance of the cultural change that takes place over time and in the same *barriada* location not only confirms this kind of dwelling environment as a vehicle for social and economic development, but also points to the connections between the different demands of various social levels. It is clear that the relative priorities and demands of the low-wage earner and that of the high-wage (or low-salary) earner must be different though not as different as the levels compared above. Preoccupation with material status is as evident in the *barriadas* as it is elsewhere. The typical home-building family, for example, may finish the facade and a “parlor,” often to quite high standards and at considerable expense, before the rest of the dwelling is complete. As the family becomes more secure, so will their dependence on the proximity of community services diminish. The pattern of upper-lower or lower-middle income level priorities will be an intermediate link between the lower and the upper-middle priority patterns.

If over-capitalization and the consequent strains on the inhabitants and the state are to be avoided, and if the maximum contribution from the inhabitants is to be obtained in order that the state can serve the greatest number, the interpretation put forward in this article points clearly to the progressive development principles practiced by squatters—and city builders from time immemorial—as against the principles governing housing and urban development policies based on the direct construction of minimum modern standard dwelling units. The modern minimum standard concept, which acts as a barrier to development by attempting to prohibit...
the intermediate stages, must give way to a concept which uses standards as guides toward the progressive achievement of minimum goals.

NOTES


3 J. C. Turner, A New View of the Housing Deficit, a paper prepared for the Seminar on a Housing Policy for a Developing Economy, University of San Juan, Puerto Rico, April 1966.


7 Estimated Growth Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Census</th>
<th>Census (per acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>675,000</td>
<td>2,556,100</td>
</tr>
<tr>
<td>1961</td>
<td>6,308,000</td>
<td>10,365,000</td>
</tr>
</tbody>
</table>


9 J. C. Turner, Uncontrolled Urban Settlement, chap. IV.


14 Turner, A New View of the Housing Deficit, loc. cit.

15 Further information will be provided from the field studies recently carried out under the auspices of the Joint Center for Urban Studies of M.I.T. and Harvard University.

16 The “Ley de Remodelación, Saneamiento y Legalización de los barrios marginales” Lima, 1961. This law provided for the improvement of barriadas of the “progressive development” variety and for the relocation of those incapable of improvement. New low-cost subdivisions were to be provided in order to satisfy the continuing demand for building land.

17 The “components of the dwelling structure” which are subject to different sequences of operations in the construction process in the Lima barriadas are: a cero or perimeter wall enclosing the plot; the wall of the first floor (or of the first rooms) with a provisional roof; a permanent (hollow clay tile reinforced concrete slab) roof structure; joinery and metalwork (doors, windows, and window grilles); installations (water supply, drainage, electric light) and fittings: finishings (floor finishings, plastering, and painting); and second story (repeat of the relevant components).

18 The main source for the interpretations of the basic functions of housing, and the priorities between them, are the minutes of a series of meetings between architects (from the National Housing Agency), a U.S. Peace Corps volunteer, a priest resident in the locality (an Englishman), and an average of three barriada leaders. The two items discussed were: “In what location should the working-class family live, and why?” and “In the locations selected, what services, utilities, and buildings are required, in what order of priority, and why?”


20 From a survey carried out by Ralph Pattison, student of architecture at the University of Newcastle, England, while resident in the barrido in 1965.

21 Though the legalization process (the administration of the “Ley de barrios marginales”) is incomplete, the municipal incorporation of the principal barrido districts has proceeded and it is now likely that the newly created municipalities will be largely responsible for subsequent development and legalization.

22 “The unutilized talents of their people constitute the chief waste and future hope of the developing countries. Only a small fraction of these populations participate actively in national life today.” United Nations document on Self-Help, ST/ST/53.


24 In July 1965, a large tract of land was bought by an “Asociación” which, within the space of one month, had sold every plot (reportedly 800) for $500—50 percent cash, the balance in 24 month payments to low-income families with similar status to those that establish the barridoes. The plots measure 25 by 60 feet. No services or utilities were included in the agreement and no legally valid title could be given as the subdivision and sales are illegal.

25 Mortgage and credit terms for typical low-cost housing generally provide for a 20-year amortization period and interest rates of between 3 and 5 percent. Where the loans are made with foreign currencies such low rates (relative to the commercial bank rates generally between 15 and 20 percent) imply a direct subsidy of about half the financing cost.

26 The “José María Caro” district of Santiago de Chile, with a total low-income population of over 100,000, is an illustrative case. This is discussed in J. C. Turner, Uncontrolled Urban Settlement.

27 The typical agency project is “sold” under circumstances that no free market producer or distributor would dream of imposing: both the buyer and the article and predetermined. Few, if any, commercial manufacturers or distributors would care to risk investments at such narrow margins: if the producer wants to decide what to make, then he must offer the product on the widest possible market. If he wants to sell to a given sector of the market, then he must produce what that sector demands. Official housing policies commonly attempt to define both and commonly encounter serious consumer problems.

28 Walk-up apartments (one room dwellers) have been built in large numbers in seven-story structures in Hong Kong and, at 12 square feet per person, have achieved very high densities. A typical 4-story apartment block project in Lima (Pachacutec) has a planned density of 160 persons per acre—the potential (and probable future) density of Cuervos.

29 Turner, A New View of the Housing Deficit.

30 The very low income sector is not discussed in this article. In J. C. Turner, A New View of

Author’s Note: The author wishes to acknowledge the support of the Harvard-M.I.T. Joint Center for Urban Studies and the Olivetti Fund for work in part reported in this study.
the Housing Deficit, arguments are put forward to justify the priorities shown on the chart: since the very poor are primarily concerned with feeding themselves and of getting employment, it is argued that they are even more dependent than the wage earners on community facilities (and proximity to sources of employment) but that they are consequently less concerned with stable residence having little or nothing to invest or gain by investment.

ADDENDUM

After this article went to press, my attention was drawn to the U.S. Department of Urban Development publication "The Unfinished but Habitable Home" by William M. Shenkel. This report surveys the existing unfinished house market in the USA—which "in recent years...has absorbed a significant share of the housing market"—from 30,000 to 100,000 units a year. The report concludes that the system is economic and should be supported and extended. In principle, it is similar to the procedures discussed in this article, although the savings achieved are proportionately much less—rarely exceeding 25 percent. "Unfinished," however, refers mainly to dwellings that lack only the finishes and fittings. On page 73, Shenkel writes: "Four room houses sold with open stud interiors with no interior walls would probably not conform to the minimum property standards. But it is most doubtful that houses unfinished to this point would be regarded as adequate loan security without some provision

Letters to the Editor

I would like to raise a question pertaining to the validity of Dr. James C. T. Mao's analysis for assisting in the public decision-making process as presented in his article, "Efficiency in Public Urban Renewal Expenditures Through Benefit-Cost Analysis," which appeared in the March 1966 issue of the Journal. I feel that Mao has committed an error of omission which would render his analysis misleading if public resource allocation decisions were to be founded upon it.

In both his article and the research report from which it is drawn, Efficiency in Public Urban Renewal Expenditures Through Capital Budgeting, Mao omits from the cost side of the ledger the dollar amounts expended for land purchase by the public urban renewal authority. He justifies this exclusion (rather vaguely in the Journal article but quite explicitly in the research report) on the assumption that the only "real" costs to society are those which are related to the "using up" of resources in the renewal process. Mao feels that, for society as a whole, an exhaustive payment cannot be made for an indestructible site resource. He then views the dollar expenditure for land by the public authority as merely a transfer payment which should not be treated as a cost to be weighed against benefits in the decision-making process.

My question is, simply, is this distinction between exhaustive versus transfer payments relevant to resource allocation decisions in the public sector? I feel that it is not. Mao is attempting to draw on modern economic theory and analysis to make resource allocation decisions in the public sector more rational and efficient. This is an admirable objective, and I think that, aside from the question I am raising, he has done an excellent job. However, I fail to understand the justification he makes for not including land costs in his benefit-cost scheme.

Neo-classical economic thought of the nineteenth century does contain reference to the real costs of production. Neo-classical economists define these as the exertions (i.e., disutilities) of labor and the abstinences from consumption (i.e., saving) that were required for creating the capital needed to produce goods. According to their view, the ultimate basis of cost was a set of psychological concepts based on a hedonistic philosophy. In the case of land, since neither the disutility of labor nor the abstinance from current consumption accounted for either its existence or quality, no real cost was thought to be present. In general, land was considered to be a "gift of nature."

Few economists today employ the "real cost" doctrine as stated above. The notion of opportunity cost, that is, that the cost of any particular course of action is the amount of gain which could have been obtained by pursuing the next most desirable alternative, is widely accepted by contemporary economists. In its modern form, the opportunity cost doctrine would probably appear as a statement that the cost to society of producing a unit of any given product (for example, an urban renewal project), is the amount of the next most desirable product (whatever product that market forces indicate should be produced), which could be produced with the given marginal resource input. Wherever choice is involved, the opportunity cost doctrine may be employed. Where there is no real or close alternative use for a resource, the opportunity cost doctrine is useless, or at least misleading. Such a situation does not usually exist in the case of urban land sites.

I am not supplying this definition of opportunity cost for Mao's edification, nor am I accusing him of not applying it elsewhere in his analysis. He is obviously well aware of its existence. However, he chooses to apply it only when, as he states it, real resources are used up. Even if it is true that an urban land site may still exist fifty years hence, while the brick and mortar structure erected upon it may not, is this relevant to a public