



Left : pictures showing four stages in the building of a house. Reading from top to bottom—Stage one: cane matting tent and the family's belongings form a temporary home; photograph taken one month after the invasion of Pampa el Ermitaño. Plots have already been marked out, probably 'unofficially' and prematurely

Photo John Turner

Stage two: once the definitive plot has been allocated, its possession and the family's privacy is secured by the construction of the enclosing wall in which it—or a caretaker—may live for several years before building a permanent house

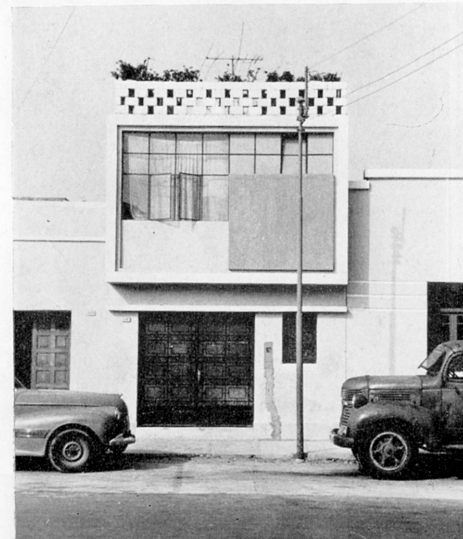
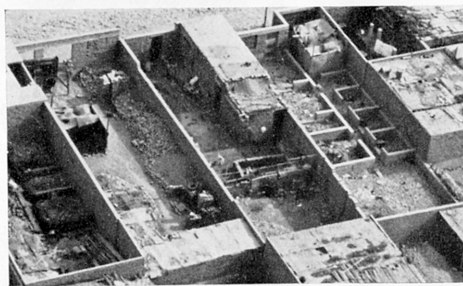
Photo John Turner

Third stage: the ground floor is fully finished, as a general rule, before the first floor is started. As yet, there are no public utilities—water is delivered by lorry and deposited in the drums. Electricity from local generators is sold at about \$1.40 monthly for one 60-watt bulb and one radio six hours daily. Water costs about \$0.15 per 50-gallon drum

Photo E. Levitus

Fourth stage: house completed, with first floor and full public utilities. This house was recently finished and has taken about 20 years to build

Photo John Turner



### Barriada integration & development

A government programme in San Martín, Lima

Comas is an example of the unaided self-help solution which, it can be fairly alleged, is a result of a *laissez-faire* urban development policy. All that the governments of the time did was to make, perhaps deliberately ineffective, attempts to resist the invasions when they took place. But if, as in the Peruvian case, the major part of urban development is, in fact, carried out by these unaided or help-yourself methods, then something has to be done about it if there is not to be a total collapse of organized city development.

Today this is generally admitted, and more and more attention is being paid to the integration and completion of the *barriadas* and to the development of projects that anticipate and canalize the forces that build them. These pages illustrate the first sequel to the recognition of the facts of urban development: the integration of the squatter settlements.

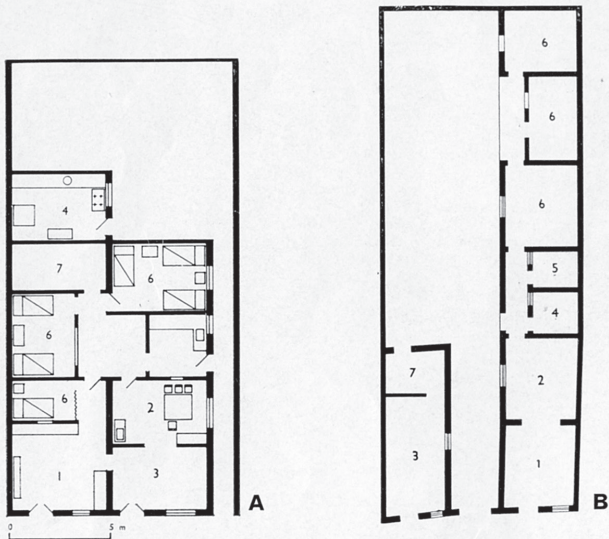
Uneasiness over now old-fashioned paternalistic assumptions and interpretations of the housing problem and the government's role, came to a head through the publication of a white paper on housing in Peru by an all-party commission of national experts in 1958. This presented the public, as well as administrators, with a dramatically gloomy picture of the situation and it succeeded in shocking legislators into effective, if not immediate, action. Early in 1961 a historic law was passed for the 'Remodelling, Sanitation and Legalization of the Marginal Developments' and, by the end of the same year, a considerable amount of money had been obtained from the treasury and from the Inter-American Development Bank to carry out works in fulfilment of the law. In the meantime the herculean task of surveying and investigating the social and physical status of well over 100,000 already established *de facto* properties was got under way.

At the time of writing, mid-1963, water and drainage installations serving 123,000 have been started and are due for completion by 1964, public water supply (for areas where drainage is not yet a practical or economic proposition) has been installed to serve a further 142,000, and electric light and power serving 265,000 in five cities will have been completed by 1964. Several of the major areas have been made into urban districts with appointed councils (no local elections have been held, officially, in Peru since 1922).

In addition to these works a large programme is now being developed to enable the owners to finish uncompleted houses. It is still too soon to say how long the average *barriada* dweller takes to build his house. His own estimate is about ten years for a properly finished one—with no credit or technical assistance. With credit and a minimum or no technical assistance he can build a house in six months, and finish the typical half-completed structure in two or three months.

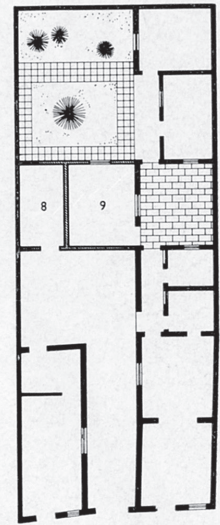
In order not to inhibit traditional efforts and investments, to cut the losses of idle investments (in incomplete and therefore unused structures), and to maintain the principle of helping him who helps himself (most), the value of the loans made in this programme is kept to the minimum calculated necessary to finish the average incomplete house—about \$500. Enough, that is, to roof the walls built by the owner and to put in the doors, windows and installations. Initially the loans were made in kind, but the problems of obtaining, distributing and, above all, accounting for materials in small quantities proved too much for an economic administration; loans are now made on the supervised credit principle, in small successive quotas of cash on the completion of each preceding stage. This system gives full rein to the initiative and organizing capacity of the participants and these resources have shown themselves to be of even more value than their own personal labour.





Left: house plans commonly used by Lima barriada house-builders

Key: 1 living 2 eating 3 shop 4 kitchen 5 bathroom 6 bedroom 7 store



Right: proposed changes to house B, as part of the barriada improvement programme. Hatched walls show two new rooms forming a garden patio at the rear of the plot

Key: 8 proposed henhouse 9 proposed bedroom

Margaret Grenfell is an English architect working privately with owner-builders of Lima barriadas on the improvement and completion of their houses. She writes the following notes:

The plans A and B are of houses whose owners applied for government loans to make possible their completion. Barriada houses like these are built up by the occupants themselves over a long period, in some cases up to 15 years and in many of them the non-specialized building work, foundations, floors, walls, window and door openings are complete and generally of a high standard both of materials and workmanship. The occupants cannot however afford specialist constructed roofs capable of bearing a second floor as these have to be constructed in a single costly operation. Also until recently public utilities had not been installed in the barriadas so that the houses are without services. Thus thousands of potentially valuable houses remain unfinished for want of a comparatively small amount of capital, while the owners continue to live in provisional shacks on the site, or in parts of their future homes which have been temporarily roofed.

Because of this building process each owner views his property with intense personal pride and yet in spite of the undoubted achievement these high-ceilinged, large-roomed houses represent, their design is of a low standard. House A is rather an exception; Plan B is more typical, and an even more frequent type is a duplication of this, i.e. a string of rooms down each side of the site with a narrow corridor between.

Once this type of house has been completed it is difficult to convert to having any sort of fluid plan with adequate standards of lighting. It is also difficult when wandering through a series of sunlit roofless rooms to make people realize what they will be like when roofed over, and almost impossible to explain the difference between a room having a window and having adequate cross ventilation.

Most of the house designs are based on one of the plan types illustrated, and this inability to visualize appropriate form for a building is a cause of many faults in design. Spaces left for bathrooms and stairwells tend to be too small and no account is taken of where the stairs will emerge at first floor level. They are also nearly always in a single flight of up to 20 stairs, with no allowance made for landings. Outer walls are built substantially, but all internal divisions are in single leaf brickwork so that these must be reinforced in order to provide economical spans for roofing.

This apparently unnecessary disturbance of their existing living space, in many cases already plastered and decorated, annoys house owners and if drastic alterations are required to bring the houses up to the standard laid down by the lending agency their tendency is to wash their hands of the whole thing. 'We have survived for ten years without their help alright, if they will not lend us money to roof our house as it is we will do it ourselves, even if it takes us another ten years.' Thus care must be taken to create acceptable houses while keeping to a minimum alterations to those portions already in existence.

Below: the San Martín barriada—a reservoir under construction (left), and the installation of water and sewer mains in a street

Photos A. Rojas. By courtesy of JNV

