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Legget, R. F.

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by

R. F. Legget

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LOGEMENTS EN ISRAËL

SOMMAIRE

Le développement des logements dans le nouvel Etat d'Israël a été étudié dans toutes les parties de ce petit pays à la suite de conférences techniques ayant eu lieu à Haifa. Le climat local permet, pour la construction résidentielle, d'avoir recours à des normes plus simples que celles en vigueur au Canada, en particulier du fait que le chauffage est rarement nécessaire en Israël. Presque partout on utilise du béton et des matériaux à base de béton pour construire des logements multiples. Des communautés sont amenagées avec soin pour les nouveaux travailleurs et le Gouvernement d'Israël s'efforce de réduire la croissance des grandes villes. On a constaté que la construction est de bonne qualité. Le contraste entre les vieilles coutumes et les nouveaux logements est saisissant.

Housing In Israel

by R. F. Legget

Overshadowed by the rolling Judean Hills, the Beit Shemesh development town lies in the Valley of Stork. The cement factory seen in the background employs some of the new town's inhabitants.

Current residential construction in the youthful state of Israel is more than double the per-capita rate in Canada. In a country of two and a half million population this represents 40,000 new dwelling units each year. Although there are differences in environment, social structure and geography between the two countries, a brief description of Israeli housing may be of interest to Canadian readers. The following notes are based on observations made during a week spent in Israel as the guest of Professor Rahel Shalon (Director of Building Research and Vice-President of the Technion) while attending the 1964 meeting of the Executive Committee of CIB*.

At the conclusion of their meetings, Mrs. Shalon kindly arranged for her fellow building research directors to see her virile country almost literally from Dan to Beersheba. We were able to see all types of new houses in varying stages of construction throughout the country. Although it is only about 200 miles from Dan to Beersheba, climatic conditions range from green-clad hills to actual desert conditions accounting for the diversity of housing types. The total area of the country is only 8,000 square miles, one half the Negev desert region, but it cannot be compared to any similar small area in Canada when the remarkable variety of scenery and the still more spectacular volume of current construction is observed.

When the State of Israel was established in 1948, its population was about 750,000; housed at a ratio of 3.5 persons per room. Today, the population approaches 2,500,000 and the availability of housing is such that there are now only 2.2 persons per room. The word "only" shows the challenge still facing the Israeli government, but the figures demonstrate clearly the great progress that has been made. It is small wonder that residential construction accounts today for about 30 per cent of gross national investment with total construction amounting to 60 per cent of the total amount.

To provide for this great constructional activity, building materials and equipment have to be imported in such quantities that they represent an appreciable percentage of the total of all national imports, although Israel now has three cement plants producing almost one million tons of portland cement per year, of which one fifth is exported.

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Many other building materials are also manufactured in Israel, in about 400 plants employing 9,000 workers, production representing almost 10 per cent of all manufacturing activity.

In 1948, more than 40 per cent of the Israeli people lived in Tel Aviv, with 15 per cent in Haifa and almost 12 per cent in the Jewish part of Jerusalem, a total of 66.3 per cent of the total population living in these three cities. In 1961, the proportion was reduced to 58 per cent, in contrast with the reverse trend in most other countries. To achieve this result, 480 new settlements have been established, many in desert locations, following the stated policy of the government to decentralize the population to the maximum extent possible. Despite all the incentives to settle in the new towns, such as confirmed jobs and "social rents" offered to immigrants (who make up more than 70 per cent of the increase in population), the growth of Tel Aviv, now a metropolitan area of three-quarters of a million people, must be a matter of great concern to the Israeli government. Progress is being made as the above statistics have shown.

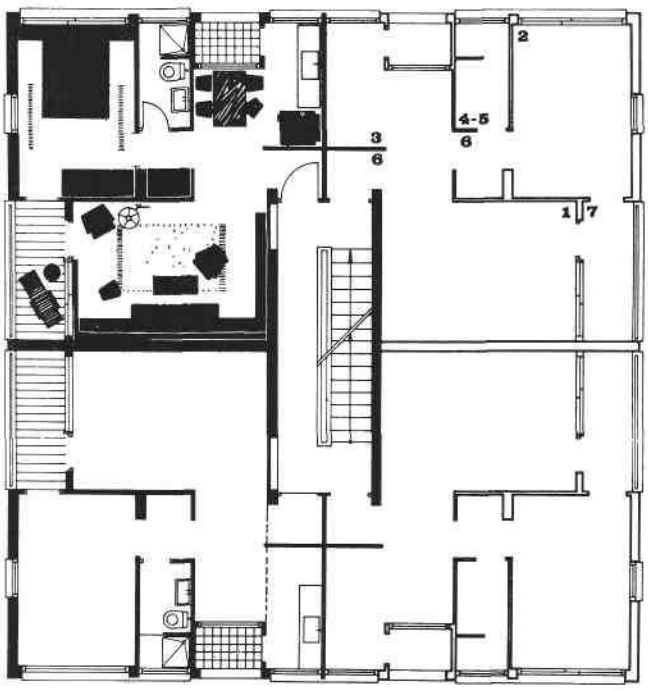


FIGURE A-1

Typical floor plan of simplest immigrant housing.

The Ministry of Housing has always been an unusually important part of the national government. A planning department was set up within two months of the establishment of the country in 1948. The country is now divided into sixty town planning areas, with local building and town planning commissions for each. Under the Ministry of the Interior, six district building and town planning commissions coordinate local planning on a regional basis.

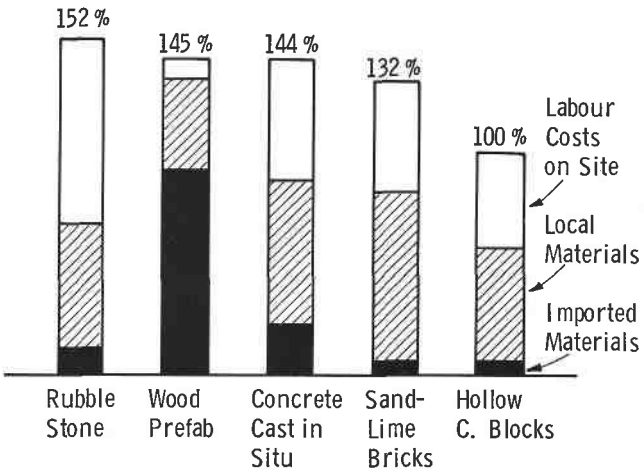


FIGURE A-2

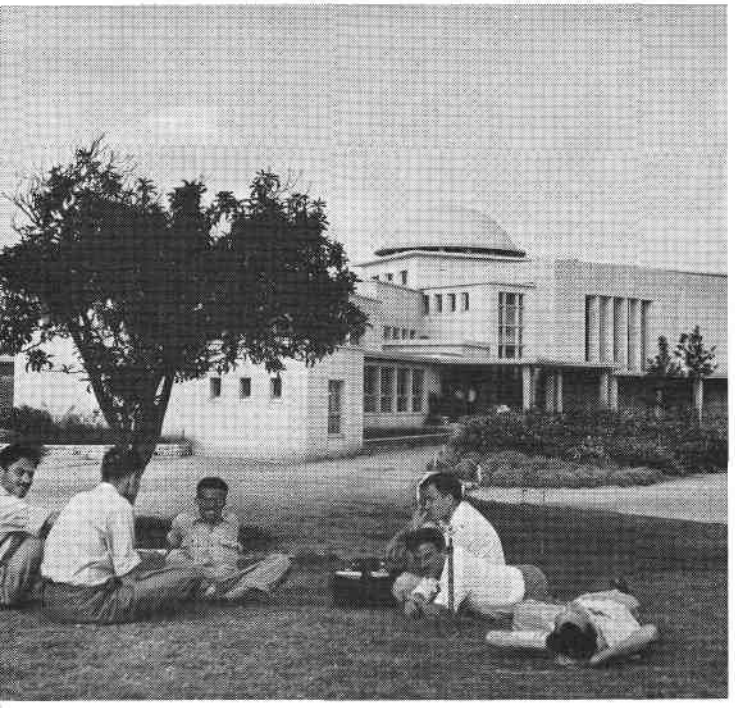
Comparison of costs per sq. m. between various wall construction systems Israel housing.

Pre-1948 planning had been carried out on the basis of Swiss studies, generally in a checker-board pattern of 60 metre blocks. The garden-city idea for planning was next attempted but found to be unsuitable for the Israeli environment. Grouping of housing units in large blocks was the next basic planning concept, and in modified form, is in use today. In Beersheba one block was constructed containing 250 housing units but unfavorable tenant reaction showed this was a mistake.

To hear planners discussing, in a singularly constructive way, mistakes made in early planning was a refreshing experience. One of the major planning problems arose from the gradual shifting of origin of new immigrants. In more recent years, new citizens of Israel have come from

eastern Europe, Persia, North Africa and even from India. (Two charming waitresses in the North American sponsored hotel at Beersheba were from India, welcoming the opportunity of speaking with the Director of Building Research from that country.) Residential accommodation has had to be designed and planned accordingly. Against this changing background, it was interesting to hear general plans described for 27 new towns, soon to be built. These will be laid out in three sizes accommodating 10,000, 25,000 and 50,000 people (3,000, 7,000 and 15,000 families) respectively.

In view of the social problems the Israeli government has been responsible for building most of the housing facilities. However almost 50 per cent of the investment in residential construction has been from private sources. Of the 650,000 living units constructed, only 200,000 are rented. The government encourages the purchase of homes, mostly apartments, in every possible way. Government mortgages for private building, for example, can be obtained to a maximum amount of only 30 per cent of construction costs. The remainder must be obtained by private borrowing and by personal savings, the objective being to promote individual saving in view of the ever present danger of inflation. Interest rates on private loans are very high for the same reason.



Students of the Bar Ilan University relax between classes on the campus lawns. Behind them is the administration building, the main auditorium and the synagogue.

Even more surprising than this unusual financing of accommodation (confirmed to the writer by a research scientist who gave details of the financing of his own two-room home) is individual apartments can be bought and sold, the land on which an apartment block stands is owned jointly by all the tenants under the "condominium" system. This use of an ancient legal practice originates from one of the earlier laws put on the statute books of the new country. Rather amusing but cynical comments were told about the inevitable legal wrangles created by this arrangement, giving consequent remarkable benefits to the members of the Israeli legal profession.

In comparison with problems of planning and financing, residential design and construction are relatively straightforward and simple by Canadian standards. The warm climate removes the need for internal heating, but adequate and economical cooling measures create the inverse problem. Even solar heat has its advantages, cheap and efficient solar water heaters are a common feature on the roofs of many smaller residential buildings in the southern part of the country, even though they constitute an aesthetic disfigurement.

Concrete blocks, in a variety of types, are almost the universal building material of Israel today, set in reinforced concrete frames for all but the smallest buildings and individual homes. In the early years of the new country, a variety of building methods were followed, many prefabricated buildings (including some wooden "prefabs" from Nova Scotia) have been imported. This emergency phase soon passed, however, and since then steady progress has been made in refining standard concrete designs, with continuing assistance from the Technion Building Research Institute under Mrs. Shalon's direction.

Israeli housing architects made no apologies for the use of standard designs. In no other way could the phenomenal physical development of their country have been achieved. Today, for government housing developments and particularly in the new towns, there are standard housing designs available and also "stock plans" for Schools, Syna-

Israel's bright new resort hotels by the languorous Mediterranean make sure that vacationers enjoy the most from the country's nine months of almost constant sunshine. On the left is shown the Accadia Hotel on the Herzliya Beach, outside Tel Aviv.

gogues, Youth Centers and Dispensaries. By careful grouping, and variation in exterior finish of housing blocks, pleasing effects have been obtained, as accompanying illustrations may demonstrate.

Today's simplest flat layout, for immigrant working families, has a total floor area of 506 sq. ft. Planning skill is shown by the following breakdown in square feet — living space 359 (or 71%), balcony 13, circulation 45, staircase allowance 33 and walls 56. Larger government flats have floor areas up to 1076 sq. ft., but even in these larger units, the percentage of living space always exceeds 691. A typical minimum floor layout is shown in an accompanying diagram.

Construction standards are graded in a similar manner according to the size of flats. Basic construction consists of reinforced concrete frames, floors and roof slabs, with concrete blocks used for all walls and partitions. One coat of cement-like plaster is used for wall finish topped with two coats of colored cement paint. Terrazo in cement is used for all floor finish. The next grade of construction is similar but has two coats of plaster, and an extra undercoat for rain-exposed walls. Provision of a bathtub instead of a shower and extra electric outlets distinguish the third standard grade of residential construction — relatively simple in comparison with Canadian practice but adequate for Israeli conditions and so much better than most immigrant families have ever had that "house proud" is a term of very real meaning.

As is always the case with different economies, housing cost comparisons between Israel and this country are not valid especially with the great differences in the standards of construction. Comparative cost studies, however, have relevance in both countries. The accompanying diagram is reproduced from papers on Israeli housing by A. Alweyl, Director of the Engineering Department of the Ministry of Housing.

Cost for prefabricated concrete units are not shown in this figure, but good progress is being made in the factory production of a number of smaller reinforced concrete units. One of the most interesting and yet unusual developments (to a Canadian) is the production of precast reinforced concrete roof trusses with spans of about 16 feet, for use in house construction. That such units can be produced economically is indicative of the critical shortage of timber in Israel. Reforestation over wide areas of seemingly barren hillsides is one of the many inspiring sights revealed by travel in Israel. Despite all the progress briefly reported in this paper there are still problems associated with housing in Israel, not all quite so obvious as the supply of the necessary capital, of which so much must come from abroad. Just as in Canada, the second generation is not always willing to accept the same standards as their parents. Families are increasing in size, making the low space standards very restrictive. Although the new desert settlements are attractive and self-contained, "city lights" exercise their magnetism in Israel making migration to Tel Aviv a great temptation.

Nothing has yet been said of the kibbutzim, the remark-

The Institute of Nuclear Science at the Weizmann Institute, Rehovot.

able community settlements so peculiar to Israel. Nowhere was the conflict between the old and the new more vivid than during a visit to one of the better established kibbutzim, beautifully situated on the Sea of Galillee between Tiberias and Capernaum. Here, on this historic ground, the kibbutz has its fish ponds, vineyards and banana fields. The visitors were shown around the simple living quarters of the residents, communal nurseries, dining facilities and recreation hall by a leader of the kibbutz, a devoted man who clearly showed his zeal for the ideals of his community. But even he admitted some concern as to whether their young people would be willing to return to their simple communal living if they went out into "the world" to complete their education.

Luncheon was served at the kibbutz in one of the most gracious dining rooms seen in Israel. It was in a new reinforced concrete building of clean cut design, associated with a newly completed two-storey motor hotel where the kibbutz has invested some of its savings. To dine in a fine restaurant while looking out over the blue waters of the Sea of Galillee, the simple small buildings of the kibbutz, and a modern "American" motel, seemed to typify in a dramatic way the progress of Israel and the problems this very progress is creating.✦✦✦

Robert F. Legget is a Civil Engineer, holding his Master's Degree from the University of Liverpool. He came to Canada in 1929 and was engaged in heavy construction work until 1936 when he joined the staff of Queen's University. He went on to the University of Toronto in 1939, remaining there as a teacher and consultant on soil and foundation problems until 1947. He then started and became Director of the Division of Building Research of the National Research Council (Nov.-Dec. 1960).

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