



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org



16383



United Nations Industrial Development Organization

Distribution
LIMITED

ID/WG.196/7
10 April 1975

ORIGINAL: ENGLISH

Ad-Hoc Expert Group Meeting
on Industrial Construction
in Developing Countries

Vienna, Austria, 20-26 November 1974

MASS HOUSING IN CZECHOSLOVAKIA^{1/}

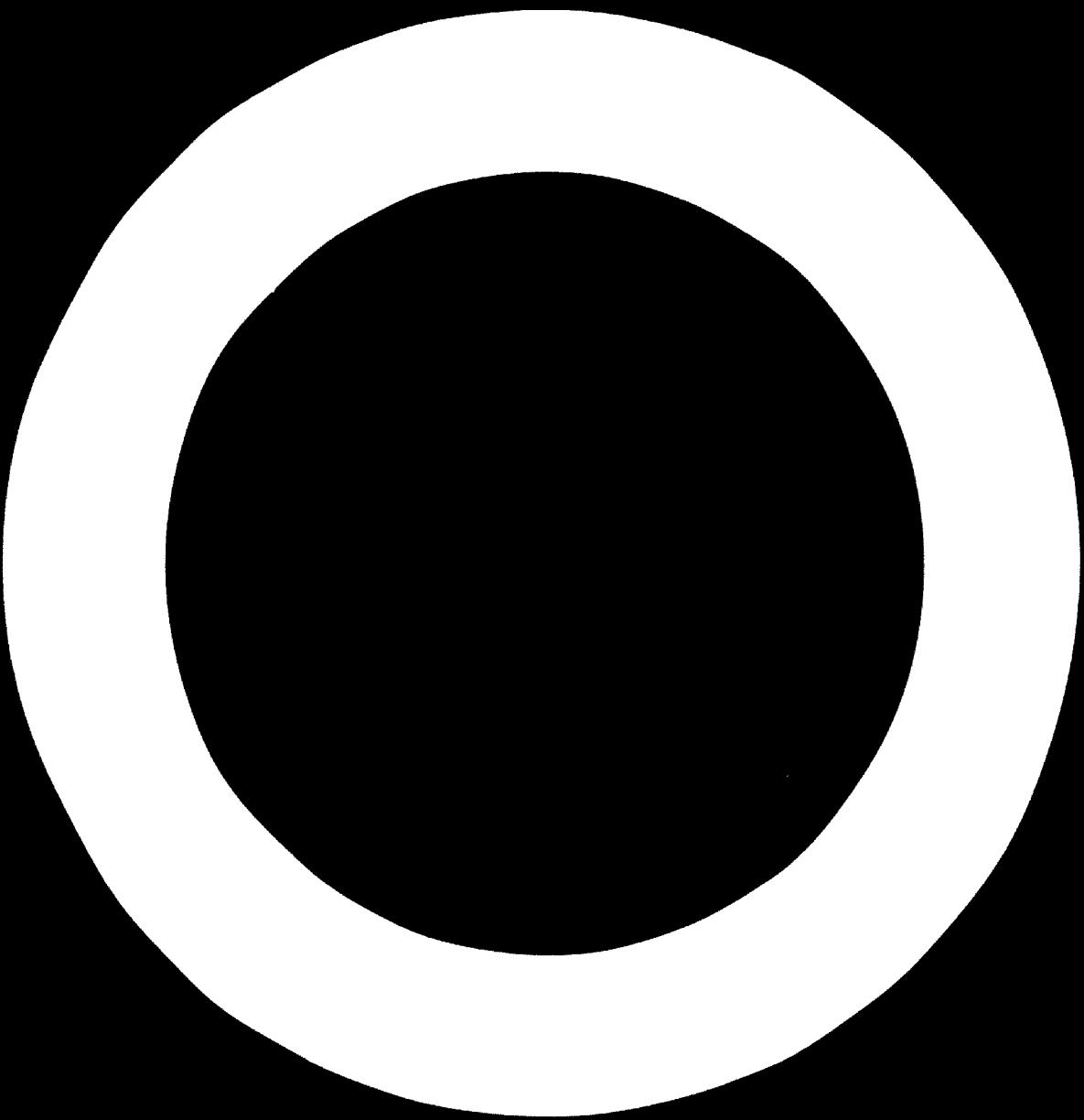
by

Vladimír Mikulaš*

* Vice-Minister, Ministry of Building and Technology of the Slovak Socialist Republic, Bratislava.

1/ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards even though the best possible copy was used for preparing the master fiche



Dwelling as one of basic living necessities of man or family, is passing through certain changes on each development step level of community. These changes depend upon the degree of economic and cultural development, and upon a way of solving the living standard of population. Intensity of solving the dwelling problem by social authorities, by state and by population, depends to great extent upon peace development. Wars and warlike situations between nations, not only are drawing off the human resources and financial means, which could be devoted to housing, but they are the cause of mass destruction of dwelling stock created by previous generations and of new dwellings as well.

Theory and practice of housing policy, in USSR, in contradiction to countries with capitalist social economy, does not use term **capital housing**. In Czechoslovakia, like in other socialist countries, housing problem design is becoming an all-society task. Housing in USSR is one of the basic programmed tasks of collective, economic and social state policy. It is designed and secured by all-round national economic plan, as basic instrument of economic and social policy of socialist state.

Basic character of state dwelling policy in USSR is to assign dwelling for all inhabitants of USSR, successively with development of economy, to secure a self-contained flat for everybody. In such all-society organization, there is not distinction between luxuriously expensive flats and cheap or economic flats with low standard of equipment and space. General level of living in USSR is not uniformly guaranteed by unit annual volume of small number of luxurious and vast number of substantial flats. The design was characteristic for our old Czechoslovak Republic prior to second world war. Socialist Czechoslovakia is to begin introducing after 1945, in dwelling

the level of living and housing is beginning to use the terminology of socially average - standard flat. This standard flat is realized in more size categories, distinguishing by number of living rooms and total flat utility area. Standard of housing has an upward tendency. The scope of average flat is raising by increased share of flats with three and more rooms, by improving of disposition and by raising of flat utility area in all categories of sizes. Development of standard housing is purposefully secured by state in the scope of its economic and social policy.

In the scope of all-society development of dwelling for all inhabitants, also social aspects of housing problem are solved. In the scope of social aspects, living problems of young and old generation, problems of families with more children, families with low incomes for one member of household etc. are designed.

Czechoslovak republic was restored after victory of Soviet and allied forces over fascist armies in Europe towards 1945, on the base of victorious national liberating struggle against fascism. It was restored as a state of people's democracy. Logical and objective component of economical and social policy of people's democratic state, immediately after liberation, was also the design of housing problem. Programme of housing was an important part of two-year plan during 1946 - 1948, for restoring and developing the national economy, which was destroyed during the war. Housing took up an important place in first two five-year plans during 1950 - 1960 having developed an extensive industrialization of our country and collectivization of its agriculture.

Basic programme of housing problem design was approved by state organs in 1959. This programme was embodied in third and fourth five-year plan in 1960 - 1970. Consistent realization of quantitative design of housing problem in Czechoslovakia, expressed by

principles of a socialist town planning and family - is secured in the first socialist development plan, 1971 - 1980.

extraordinary was a course of family planning design in Czechoslovak socialist state in its first socialist plan during the period of 1949-1955. In those years of first five-year plan of K.R., all the efforts were made to reduce birth rate on Slovakia during the first five-year plan. More than 250 000 of new houses were built. It is more than it resulted from building stock built in preceding several years. Until the First World War Slovakia was a part of Austria-Hungary - up to 1918. Between two wars, it became an agrarian, insularily undeveloped appendage of bourgeois Czechoslovak Republic.

Dwelling of Slovak population under conditions of socialist transition in planned economy has qualitatively changed. Every second family is living in a new dwelling after liberation since 1945. Also flats from pre-war time, prior to 1945 were mostly brought up-to-date. Thanks to rapid dynamics of housing development, section across urban stock on Slovakia is involving all development forms of socialist dwelling.

Rapid dynamics of building during the first 50 years has expressively changed the appearance of Slovenske and villages.

Moderнизized housing stock was built up. New town sectors have been constructed in large towns. In towns with population over 100 000 inhabitants, in Trnava and Kosice, number of people has more than doubled during a period of three years. New urban districts in towns of medium and smaller size are characterized by multi-storey construction. Villages have, beside private, ownership of small plots, now also lots of new modern houses technically well equipped. In villages and villages now centres of civic authorities, cultural houses, pools, shops, cultural facilities, social and health centres, recreational centres etc. have been established. At present, the average age of village dwelling is 10 years old and Slovakia's average age is prior to thirty.

and so on. In Slovakia after the colonial dependence during
the first half of the 20th century, there was no further
development of agriculture, particularly of
small peasant families. This was due to a gradual increase
of dwelling content in villages based on economic results of
prosperous and semi-collective cooperatives, taking advantage
of long-distance transportation possibility. After industrialization
of agricultural products, collectivization of agriculture
thus became the starting point for increase the level of living
in villages.

Brief characterization of housing problem development in ČSSR
and in Slovakia during last 50 years and qualitative changes of
dwelling level of population enable us to prove by evidence some
general items of information. Several items of information from
housing projects carried out in ČSR and SSR /Slovak Socialist Republic,
are confirming that:

- the content of dwelling people is changing in dependence upon
economic development especially upon development of industrial
production and technologies of long-distance production in
agriculture;
- the extend of social dwelling content at certain level depends
upon development of material education basis of building
materials, upon technology level of building, mainly upon their
consumed work, and upon organization level of building, projecting
and investor organizations;
- participation forms of state, social organizations and of
population taking part in dwelling and housing design are changing
in dependence upon the extend of applied technology of
housing, system of management and financing of housing.

Development of forms in dependence upon content of dwelling content in SFR

Contemporary composition of housing stock in Slovakia is giving
cross-section of a development and explicit changes of social

dwelling. In housing stock there are more than 58% of flats being constructed in last thirty years, under conditions of socialist society after 1945. The rest about 41% of flats are comming from period of the first CSR /1918-1945/ and from the period of Austro-Hungarian monarchy /prior 1918/.

Housing stock in towns, originating from time prior 1900 /about 11% today more than 70 years old, is composed partly of more-flats houses and of residential buildings /town villas/, but mainly of ground floor row houses with low standard of space and without complete public utilities. Majority of dwellings, from the time prior to second world war, more than three-quatre of them is in villages. Town dwelling houses as well as family houses are masonry ones, made of burnt bricks with basic public utilities. Houses in villages are almost exclusively constructed as family house /one-family houses/, in majority of stone and timber, or of unburned clay, according to local sources of raw materials. Originally they were covered with straw, or with wooden roof cover /shingle, cover boards/. In mountain area, beside these permanent dwellings of that time, certain wide-spread wooden buildings, called mountain farms and chalets, for accommodation of shepherds of sheep and cattles and for accommodation of woodcutters are preserved. Originally, family houses in villages have been composed of one large room, of an entering part with fire place and of a chamber. In the housing stock of today, as far as these houses are still surviving, they were modernized, they are already electrified, heated with constructed furnaces and cookers. Timber houses are continually becoming a greater infrequency. Most beautiful of them are placed into scanzen, as commemoration of popular architecture. As long as they are conveniently situated in the nature, they are successively, after certain modernization, adapted for recreation purposes.

Housing stock from the time of bourgeois CSR is 50-75 years old. It is characterized by expressive social differences in towns, as well as between town and village. These differences are partly, in used houses, but mainly in the size, disposition and architecture of houses. In the connection with advancing industrialization, burnt brick and roof cover is becoming a predominating material. It is combined with stone used for foundations and cellar space. Timber is used for construction of ceilings and roof truss. The application of lime with sand as a binding agent, and for internal plaster and external renderings, is also spreading.

Expressive social differences in houses were so far seen between urban suburbs (or "villages") and marginal district for collective economy, which was mainly town poverty. On peripheries of towns and in the villages, especially during economic crisis when timber became difficult to get, cases of town poverty were original. Particular concentration of agricultural workers on estates, in collective farm buildings close to farm buildings, in peripheries, as well as in the small-scale peasant farmers, built in of masonry, wood and stone foundations, in greater part covered with lime mortar, either sailing, and truss, burnt roof cover, or plain tiles, was predominating. At lower latitudes, in mountainous areas, either cases of stone foundation with mud mortar cover, the first roof with slate and then with lime mortar, as well as cases of seasonal workers in mountainous, isolated, of unbaked bricks with timber roof truss, roasting lime cover are still surviving. Again, a social type of house of a certain class in the time of bourgeois CSR, which was not colonized, after the revolution, as well as during the last 10-20 years, went through significant changes. According to present the only element of class is the house. It is either of private origin,

The majority of dwellings in the existing stock in SFR is composed of dwellings constructed after liberation since 1945 to 1970. During the years of 1971-1975 about approx. 200 000 new dwellings will be constructed. After taking off the waste, the portion of dwellings in Slovakia to 50 years will expressively increase.

In the scope of new building stock erected under conditions of socialist society, a design of dwelling is gaining qualitatively changed content and forms. This design is becoming the part of social and economic state policy in the frame of whole design of housing problem by national economy plan. It has two basic forms:

- social one, being all-round directly secured by state by means of national committees, local organs of state authority and public service; it is realized to great extend in towns and industrial centres with complete public utilities and basic civic amenities,
- individual one, being secured cooperatively in self-help by prospective house-owners themselves with the help of national committees and with state support in a form of family houses, especially in rural areas. Construction of family housing in the last period, is starting to develop even in towns as a supplementary form.

In the housing stock built up during the first 50 years after liberation, both principal forms are represented almost equally. However in contemporary five-year plan, higher social forms expressively begin to predominate even in Slovakia. Their share is increased in five-year plan for 1971-1975 to 77%.

During the 50 years period, both principal forms of housing are passing through certain changes of development. They are characterized by two stages. The first one is falling within the period of socialist industrialization and collectivization in agriculture, up to the year 1950. It falls within the period of first and second industrialization. The second development

of which was the period of 1928-1930, when the state took a direct part in the construction of dwellings. At the same time the state began to construct its own houses.

The situation developed rapidly, making the first stage of housing policy - the period of 1928-1930, a chance to solve the problems of peasant families. It was aimed to rid one of the main causes of poverty - the backwardness and backwardness of agriculture. The result was that on the one hand, backwardness and backwardness of population, prior to income redistribution. In the interest of peasant life of development, there was migration, the first rural settlement of socialist life was paid to collective agriculturalization and to create social conditions for large-scale production forms of agriculture. Specially at the beginning of development, individualization and collectivization demanded great financial resources. In addition to it, neither building experience nor construction forms of building materials were developed in that period.

In the third stage, during the period of 1930-1950, the housing is characterized by two forms - group and individual one. Both forms had a common material base in building materials. It was mainly brick, cement, stone and timber. Prefabrication, specifically of horizontal elements - ceiling, window lintels etc., began to develop. The difference was only in the way of realization and financing.

State housing was realized by newly created contractor's building organizations, national enterprises. Their construction was organized by regional committees. Financing of this form of building was secured by state, from national budget. Distribution of dwellings for workers, employees of national enterprises, for socialist organizations, for the socially weak families living, not dwelling pensioners, disabled persons, families with low income, was carried out by regional committees. Prices of

dwellings was below level of individual dwellings. The rent was low. The difference between capital and facilities and price of dwellings, for which no provision, was compensated by state budget. The difference between collection of residential rent and costs of dwelling, the administration of communal dwelling stock, was also compensated by state budget. Individual building of family houses was realized by prospective house-owner in a self-help form. They utilized local materials, mainly stone, gravel, sand, timber, and other materials like bricks, lime, cement, iron, timber, roof cover, windows, doors, etc. were bought in a state trade for retail prices. These prices were low, often below the level of own costs. Construction of family houses was realized by prospective house-owner himself in self-help form and with neighbourly help. This help was rendered by neighbours, friends, well-knowns, collaborators from the factory etc. After finishing the structure, or before starting it, the prospective house-owner went to work off the help. Land for this kind of housing prior to end of collectivization, the prospective house-owners had either their own, or they bought it for low price, prescribed by public notice through national committees.

The standard of flats in state dwelling houses, as well as in individual ones, in family houses, proceeded from the economic and financial possibilities of the society of that time, from the development level of material base of building industry and from capacities development of building organizations.

In state housing, in average flats with two rooms, kitchen and facilities were dominating. They were realized in ensembles of multi-floor dwelling houses, with complete public utilities /water, electricity, central heating/ and with basic civic amenities.

In individual building of family houses in villages, three - rooms flats with kitchen dominated. They were, in majority, partly or totally sub-cellared, rarely without facilities,

which was designed in the frame of existing objects by septic. They were so largely decentralized. Water supply was mostly solved from local wells.

General development of housing in its first stage, during the period of First and second five-year plan in ČSSR and in SSR is characterized by following data of finished dwellings

Year	ČSSR	S.R.
1949	29073	13098
1950	38259	15554
1951	30924	11954
1952	39250	18171
1953	28957	15326

First five-year plan

1949	176446	74103
1954	38193	17084
1955	46790	18331

By designing the dwellings problem in the second five-year plan, results were obtained mainly in that form that

- the number of constructed dwellings, to compare with first five-year plan has doubled /from 176 000 to 300 000/;
- for basic design of dwelling problem in ČSSR, long-term conception was worked out, according to which, for each family a self-contained flat has to be secured. This conception was projected into third five-year plan for 1961-1965 and into long-term prospect;
- a progressive technology of housing applying all-assembled panel system, enabling to increase the productivity of work and to shorten the time of housing was developed.

Development of constructed dwellings in ČSSR and in SSR, on the whole and according to stages during 1956-1960 is characterized by following data:

Years	ČSSR	S.R.
new dwellings		
1956	52 240	31 002

1957	50 419	21 001
1958	50 881	22 447
1959	63 924	24 053
1960	75 724	22 562
1956-1960	314 031	122 016

Beside it, in whole state, by additional buildings more than 36 410 flats have been obtained, so that the total number of new flats was 350 441.

During the first 10 years after liberation, in the period of 1945-1950, on Slovakia in a frame of socialist Czechoslovakia, following three basic qualitative changes were brought into life:

- industrialization of country has developed, and in this way the unemployment was eliminated;
- collectivization of agriculture and change over to a form of large-scale production was realized, thus removing the base of economic backwardness of rural areas;
- following up with the results of industrialization and collectivization, construction of new houses in towns and villages has been increased.

During the period of 1945-1960, more than 620 000 dwellings, i.e. 41 560 dwellings per year, as a trend from 36 924 dwellings in 1951 to 75 724 ones in 1960 were constructed. During the same period, on Slovakia, 262 000 dwellings were constructed, i.e. 17 400 dwellings per year on average, as a trend from 11 954 dwellings in 1951 to 22 562 dwellings in 1960.

New qualitative possibilities of society, following from results of industrialization and collectivization, from development of building capacities and new technologies of construction, opened during the first 10 years of after-war construction, allowed to mark out new priorities and tasks in designing of housing problem.

According to adopted aims of the design of housing problem in ČSSR from 1959, long-term investment programmes of housing,

such a vision, so providing a suitable dwelling has been elaborated. The given figures contain the number of dwellings, amount of utilized and unutilized flats, cost of flats according to flats according to flats. The cost of flats and family structure were also a consideration of investment programs.

Constructional part of programme is like dwelling problem was continuation of reconstruction of structural organization for existing in civil construction, development of prefabrication, which is oriented to prefabrication, technical cooperation of multifamily and single-family; collection of prefabricated parts and components of walls in houses which were assembled by drawing, fixed or building site.

Programme of basic design of housing problem in USSR, from 1959, required to realize a series of arrangements especially in the area of finance, and technical and social policy.

Growing programme of building, required to mobilize extend new financial sources.

Therefore these areas of funding, from the first stage period up to 1970 were revaluated with the aim that beside the increasing financial part of state, also that one from the side of population should be increased for design in the housing problem. From those reasons, another form of housing, called cooperative housing, originated during this period. Participation of state in individual construction of family houses was also reevaluated with the aim of its help.

They are two variants of state housing. It is a question of communal /state/ and enterprise dwellings. The difference between communal and enterprise housing is in the way of financing and allotment of flats.

Construction of commercial dwellings is financed by national committees directly from the state budget. Flats are allocated to applicants or dwellers, according to law valid for

position economic. Only the rich live in houses, they do not have to work and make a living, and they do not participate in manual labor, which is considered dirty or difficult, tiring. The poor are the ones who are most in need. They are the ones who will have to work and low income. The law is that each family has to allocate 10% of its gross income to the payment of rent, in case of old. From one person to another, the amount of living room, the flat is considered to be too small and it is considered unusable. If more than 10% of living room is considered too much, the flat is considered to be out of proportion. In case of a couple, with their help the situation can be better. After the demolitions, dwellings for development are available, especially weak families, disabled people, elderly, women with more children, with low income, etc. It is also available.

Entrepreneurs, in addition to their own contribution, from their own income, can apply for a loan at the bank. It is very difficult to get a loan from the bank.

For entrepreneurs, there is a tax relief, the so-called tax break is given. This is done to encourage entrepreneurs to take their own initiative. What is called self-financing of women.

The sum of money that can be borrowed is limited. In general external debts are small, up to 10 thousand, as well as those of individuals. It is considered that it is not in form of a bank or institution, but individual responsibility to do that. Those who have it, can take a loan alone, consume it and give it to their family members.

For example, if the cost of a house, the entrepreneur, in addition to their own savings, can take a loan to obtain a mortgage. There is

Department of Finance, 1960-61 Budget, p. 10, states that the budget bill on Capital Expenditure and the Department of Internal Affairs has been submitted to the House, according to section 1 of the Public Finance Act, at the current price or amounts £1,200,000. The total cost of budgetary expenditure on 31 March, 1960.

Estimates of capital expenditure on services by Divisional Indirect Tax Department on 31 March 1960, by correct arrangement in production, expenses on setting up to making available construction work in own workshop. May also deduct from economic cost of plant, if it is convenient for them to have at their disposal funds.

In addition to the above, it is estimated that there will be spent £1,000,000 on the fitting out of new plant for carrying out the work of the departmental direct service of the Board of Trade.

What is the cost of the plant required for the new plant and what is the estimated cost of fitting out the plant?

In addition to the plant required for the new plant, what is the estimated cost of fitting out the plant? The estimated cost of fitting out the plant is £1,000,000.

What is the cost of the plant required for the new plant and what is the estimated cost of fitting out the plant? The estimated cost of fitting out the plant is £1,000,000.

What is the cost of the plant required for the new plant and what is the estimated cost of fitting out the plant? The estimated cost of fitting out the plant is £1,000,000.

A. J. H. VAN DER HORST

It is proposed to have a national committee of 100 or 150 persons to work out a plan of action. The National Committee will be composed of 100 or 150 persons to be appointed by the National Committee.

卷之三

The field of "real estate" is a term
location is influenced by content and
national conditions, the more so as it is controlled undirect-
ly by economic development in the field. The day labourer needs
of production, goes to the city, but the peasant does not, a city
one of which,
allow to construct buildings
of real estate, and the same for building
public buildings.

2015.7.29

AN ORDER OF SERVICE FOR THE BAPTISM OF THE SUB-
MISSION OF THE CHURCH OF CHRIST IN THE CITY OF
TOKYO, JAPAN

AS E AS I CAN MAKE IT

On the 1st of April 1945, the Bank of Canada issued the following order to the Governor of the Bank of Canada:

"The Governor is directed to issue to the Canadian Bankers Association, the sum of \$15,000,000, in gold bullion, to be held by the Canadian Bankers Association, and to be used for the payment of debts due to the Canadian Bankers Association, and to be paid over to the Canadian Bankers Association, as soon as possible after the 1st day of May, 1945."

Contribution of CO_2 to the total concentration of CO_2 in the atmosphere is about 10%.

100.6 prospective buyer-owner is not our client amount of
100 hours for his/her family house, he can obtain a loan
of 80-90 percent bank. The amount of loan is not generally
fixed and it is agreed between state bank and prospective
buyer-owner, usually, to a structure of constructed family houses.
Ability of loan is 20 years, the general rate of interest being
10% to 12% per year. Buyer-owner is given a family house
in group and required to move, take and be paid money,
loan is only 10% interest on the

...lyous contributions to the construction of their enterprises still in the hands of the local, non-existing firms & the local business.

and the first part of the sentence. In the
middle line, a relative clause is so arranged that
it can be omitted without loss of meaning.

and local sections in the vicinity, and the local participants of the town council. They participate in the formation of committees in the form of joint bodies or building-contractor's organization.

In the frame of investor function, local town committees are exercising planning and financing of houses, and in great part public utilities of town - supply, transport and energy. They direct planning by an investor organizations for dwelling and civic building, and work out investment project preparation of dwelling buildings, construction of civic amenities and all the other public utilities.

In the frame of investor function, local committees are exercising planning and financing of houses, and in great part public utilities of town - supply, transport and energy. They direct planning by an investor organizations for dwelling and civic building, and work out investment project preparation of dwelling buildings, construction of civic amenities and all the other public utilities.

Local town committees in the frame of investor function are exercising planning and financing of houses, and in great part public utilities of town - supply, transport and energy. They direct planning by an investor organizations for dwelling and civic building, and work out investment project preparation of dwelling buildings, construction of civic amenities and all the other public utilities.

Planning and financing of housing and civic facilities is done only for corporative, cooperative and municipal housing. Planned by an investor organization, the joint body of building, individual firms for the purpose of implementation of their degrees of realization of activities, financial and technical resources.

which is not met with in Slovakia is the situation of
the houses to occur a building of new or old houses, stocking
of the land and changing ownership.

- But the question is connected with financing,
• also public utility for dwelling buildings of community,
• open civil engineering, housing, I consider for building of
new houses,
- the date period in which is carrying out of complex
engineering,

column 4 and 5 give, also contribution for community
building.

Contribution to the construction of the residential house-owners.

The average number of persons per household of Slovaks
in Slovakia in 1965, it was counted partly by in-
stitutional offices, the first being a standard
of the Ministry of Internal Affairs - April 1970. In
individual cases, the result was as follows:

Yrs	Persons	per person
1965	48.1	152.44
1970	49.5	159.33
1970	847.741	100.8

Results of building 1 cubic meter by following table

Period	Number of cubic meters of buildings for 1000 inhabitants	in USSR	in Slovakia
1965	5.4	7.79	
1970	6.1	7.12	
1970	6.6	7.25	

Higher intensity of housing on Slovakia than in USSR follows from
the housing starts and lower dwelling standard than in
Soviet area. By higher intensity of dwellings on Slovakia these
differences are gradually getting balanced.

Beside increasing the number of living apartments, also their quality was improved. In 1970, all dwelling, constructed in state, communal, cooperative and enterprise housing were connected with drainage system, furnished with bathrooms, water main and decentralised. Also the interior equipment was improved.

Equipment of dwellings in state, cooperative and enterprise housing is characterised by following development:

Type of equipment	Share in % of flats finished in current year	
	1961	1970
Gas	75.8	97.7
Warm water	65.9	98.9
Central heating	25.4	98.0
Built-in furniture /kitchen lines, cupboards in hall etc.	50.9	95.8

Standard area of dwelling has steadily increased. The average living area of rooms in new housing increased from 367 m²/flat in 1961 to 424.4 m²/flat in 1970. Average number of living rooms of one flat increased from 1.14 in 1961 to 2.49 of living rooms in 1970. In one flat in 1970, according to standard, as a living room is a "concrete room" such room being directly illuminated, ventilated and equipped with heating elements, of floor space 8 m² per room.

Size of flats in state, cooperative and enterprise housing is characterised by following data:

Number of rooms	Share of flats in % finished in	
	1961	1970
Bachelor flats	4.4	5.3
1 living room + kitchen	4.7	9.6
2 living rooms + kitchen	65.4	46.9
2 and more living rooms + kitchen	41.7	50.2
Total	100 %	100%

In the year of census of living, also flats or small houses, living room's floor level are significantly participating. In 1970, 96.0% of inhabited dwellings in Poland houses and flats, 91.6% were connected to electric net, 51.2% had central heating, 45.2% were equipped with water main, and 58.2% had a shower. In 1970, average area of living room of one flat in Poland town was 55.8 m².

Participation of individual flats, according to number of living room, in living houses situated in 1970 was as follows:

size of flats	share in %
One room flat	0.5
one living room and kitchen	3.5
two living rooms and kitchen	45.5
three living rooms and kitchen	41.0
four and more living rooms and kitchen	4.5
Total	100,0

In 1970 census of people, houses and flats was executed, and it brought survey of living standard. The level of living expressed by number of permanently inhabited dwellings and by number of census households, in census conducted December 1970 was as follows:

Index	CSR	CSR	SSR
Number of permanently inhabited flats /in thousands/	240	3089	1151
Number of census households in total /in thousands/	410	2575	135
Number of census households without own flat /in thousands/	570	986	184
Households per 100 flats	88.1	88.9	81.2

Through relative extent building of new dwellings with modern equipment and with relatively high sanitary standard, considerable improvement of qualitative level of living has been reached in 1951-1970, as it can be seen from the comparison of the following indicators:

Indic. no.	Year of census	CSR	SSR	SSR
1. Average number of living rooms for one flat without kitchen	1961 1970	1.8 2.1	1.3 2.1	1.7 2.1
2. Participation of flats with three and more living rooms / in % from total housing stock without kitchen	1961 1970	17.1 20.8	19.0 30.2	11.8 32.2
3. Average living room of flat without kitchen / m ²	1961 1970	34.7 39.4	35.3 39.2	35.2 40.0
4. Average living room of flat for one person	1961 1970	9.7 11.0	10.5 11.3	7.9 10.1
5. Average number of persons for one living room without kitchen /	1961 1970	2.02 1.80	1.95 1.51	2.52 1.83
6. Participation of flats with central heating in total tool housing stock	1961 1970	8.4 21.4	8.4 30.1	7.4 27.3

In spite of almost halving of new dwellings in ten years period from 1961 to 1970, i.e. in 1961 14 046 new dwellings were constructed, quantitative level of living did not change considerably. It follows from the fact of decreasing flats per family, the net increase of flats is very low and the number of permanently inhabited flats has increased from 302 500, by 411 000 flats in 1961, to 443 500 flats or flats in 1970. This state was caused by higher average family size, which is about partly by progressive limitation of 1.1 to 1.2 people by using flats for nonresident purposes. At all flats were divided by joining of two small flats into one, and one, whereby living of several families has improved, but the accommodation in self-contained flat of those families living in flat is deplorable. Nonresident flats are used for covering of deceases. Moreover, in the first period, arrangement for purposeful waste regulation of housing stock have been made.

On the base of analysis of owning development in CSR in 1961-1970, several maps of CSR as well as of CSR in SSR, have made

arrangement for most important civic design of housing problem, under systematic quality improvement of living space. These arrangement were included into fifth five-year plan of housing. Fifth five-year plan is characterized by increasing number of newly erected flats to 557 000, against 450 000 erected in period of 1966-1970. Successive settlement of living backwardness in SSR, where during the period 1971-1975, 187 000 new flats, against 160 000 flats in 1966-1970 will erect, is thus secured. Tasks of fifth five-year plan are systematically being overpassed. It is expected that in period of 1971-1975, in ČSSR, about 280 000 and in SSR about 200 000 flats will be added up. Already in first years of fifth five-year plan, intensity of housing has excessively increased, when intensity of housing in ČSSR surpassed the value of 8 flats and in SSR 9 flats per thousand inhabitants.

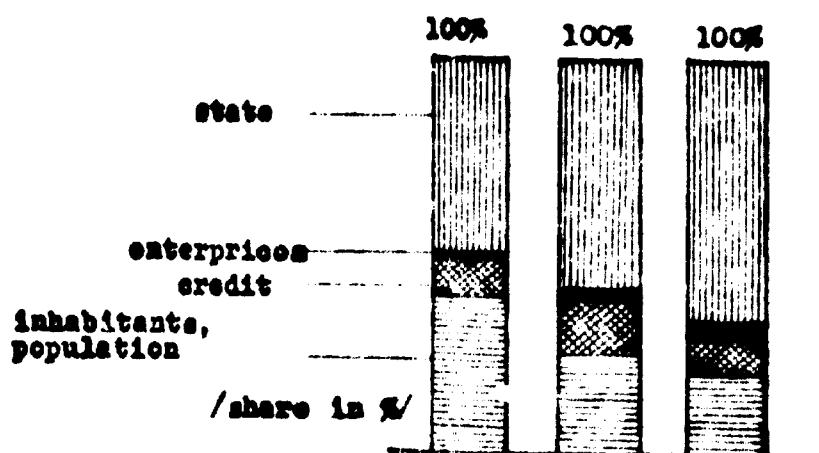
Total increase of housing is reached in social forms of communal, cooperative and enterprise housing, which is secured by contractors' engineering organizations and dwelling assemblies with complete civic amenities and public utilities. At the same time, building of family houses is stabilized by plan on attained level, but the building in ensembles, according to qualitative projects, by progressive technologies and with public utilities and civic amenities is qualitatively improving.

Composition of flats according forms in improved fifth five-year plan is characterized by following data:

1971 - 1975

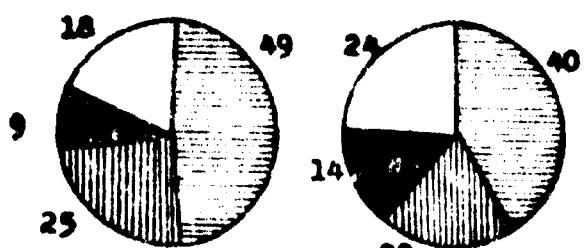
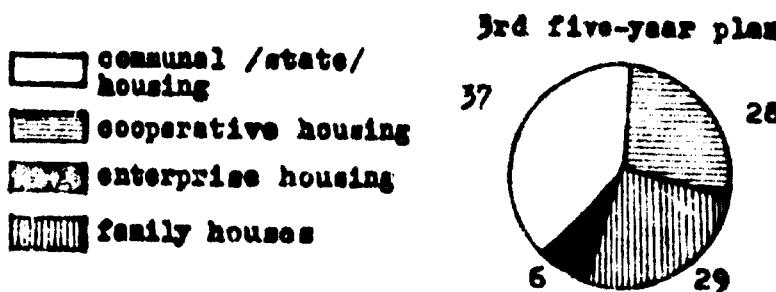
Form of housing	ČSSR share in %	CSR share in %	SSR share in %
State/communal/ cooperative housing	126 300 23.5	83300 23.8	45000 23.0
enterprise housing	219270 39.7	143670 41.0	69600 37.2
family houses	85 250 15.9	60850 17.4	24400 13.0
Total	557 000 100.0	350000 100.0	187000 100.0

In addition to the state, enterprises also finance housing. This is done through state-owned enterprises, which are engaged in building and construction, or by the state itself. In the first five-year plan, the state accounted for 100% of all housing. In the second five-year plan, the share of state-owned enterprises increased to 60%, while the state's share decreased to 40%. In the third five-year plan, the share of state-owned enterprises increased again, reaching 70%, while the state's share decreased to 30%. In the fourth five-year plan, the share of state-owned enterprises reached 80%, while the state's share decreased to 20%. In the fifth five-year plan, the share of state-owned enterprises reached 90%, while the state's share decreased to 10%.



1/ Share on financing of housing in 3rd, 4th, and 5th five-year plan

2/ Housing structure according to forms in years of 3rd, 4th and 5th five-year plan



4th five-year plan 5th five-year plan

for nuclear power plants. The
Commission has issued, and will
issue, regulations for the safe
operation of reactors.

The Commission has issued
regulations for the safe
operation of reactors.

The Commission has issued
regulations for the safe
operation of reactors.

The Commission has issued
regulations for the safe
operation of reactors.

For instance, if a company has a large number of employees, it may be able to offer them better benefits or incentives than its competitors. This can help attract and retain top talent, which is crucial for long-term success. Additionally, companies can offer unique products or services that set them apart from their competitors. For example, a company that specializes in sustainable products or services may be able to attract customers who value environmental responsibility.

Concurrent to the minimization of costs allows to make considerable improvements in the quality of the products and to increase their competitiveness.

Industrialisation of Russia must be built on broad
over state and government economic powers. Considering
economic problems, in conditions of the colonial economy, at
full development of urban-based capitalism, a capitalist work and
its low level, is necessary.

Consumed work for erection of one dwelling in a f. is. hours, built in traditional way of bricks, i.e. not giving 3000-5000 standard hours. Building of an average dwelling with panel technology takes about 900 hours. By imported establishment for making panels, the consumed work for dwelling is lowered to 500 hours. Best enterprises in U.S.S.R. can get 400 ours for one dwelling. Decrease of consumed work for housing, of such

to take the appropriate action of the Ministry to issue a
directive to the concerned universities or other institutions.
It allows the burden of such a heavy task to be borne by the
Ministry of Education. It would also allow the estimated work of
900 hours for the preparation of the syllabus to be reduced to
not more than one-third of the current time, i.e., estimated
work of 300 hours.

In the present context, it is important to conceptualise
the lowering of the educational standards at the primary school
level of education.

At the present level of education, the number of students
is 30 lakhs. This is likely to increase to 35 lakhs
by 2000. The number of students in the primary
schools is 20 lakhs. This is likely to increase to 25 lakhs
by 2000. The number of students in the primary schools
for 2000 has been estimated at 20 lakhs.

It is only the present number of students that is likely to be
lowered to 15 lakhs. This is likely to happen in 10 years.
Therefore, the number of students in the primary schools will
likely decline from 20 lakhs to 15 lakhs. This is likely to be
achieved by reducing the number of students in each class of
primary schools from 30 to 25. This will result in a reduction
of 15 per cent in the number of students in the primary
schools. This will result in a reduction of 15 per cent
in the number of students in the primary schools.

The proposed reduction in the number of students in the primary
schools is likely to be achieved by reducing the number of students
in each class of primary schools. This will result in a reduction
of 15 per cent in the number of students in the primary
schools. This will result in a reduction of 15 per cent
in the number of students in the primary schools. This will result in a reduction
of 15 per cent in the number of students in the primary

Intention is to increase living standard of the citizens. It will be well to note. For a long time, living standard of the citizens has been increasing. This is due to the fact that there is a large number of permanently employed people. There is a great demand for employment among people living in cities or even towns.

To ensure this high level of living, already available arrangements have to be made. According to recommendations made standard, the new standard to be adopted is to provide for the same standard across areas, in other words of households. For individual size of household, it is recommended, that the size of 120 be accommodated in the following ways:

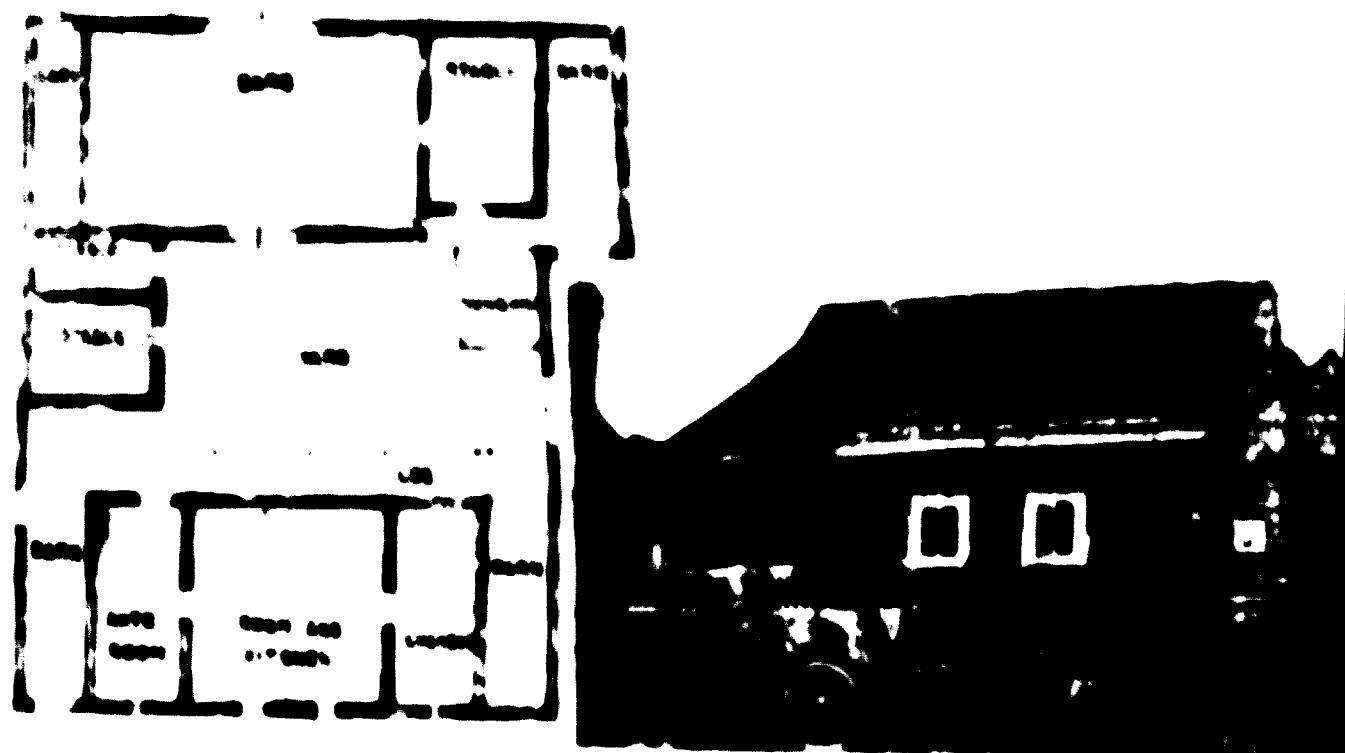
Size category Household number of members	Minimum number of living rooms in flat	Maximum space of living rooms in sq
I.	1	16
II.	2	36
III.	3	56
IV.	4	76
V.	5	96
VI.	6	116
VII.	7	136
VIII.	8	156

Realisation of conception appears in 1959, aimed at housing problem design in USSR, brought positive results in improving the housing and in improving the living standard during the period of 1962-1970. An expressive progress in housing problem design in USSR is recorded in 1971-1973.

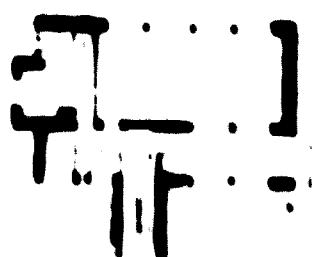
**THE PRACTICAL HANDBOOK OF
THE PRACTICAL HANDBOOK OF**

1

ACKNOWLEDGMENT The authors would like to thank the Associate Editor and anonymous reviewers for their valuable comments and suggestions.



三



A villa at 10-12 Denecloue citizen built in 1927

Archaeological Survey of India
Museum, New Delhi

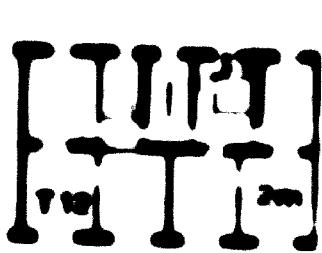
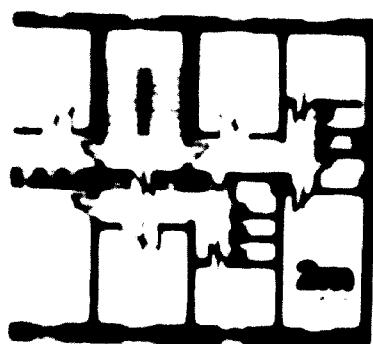
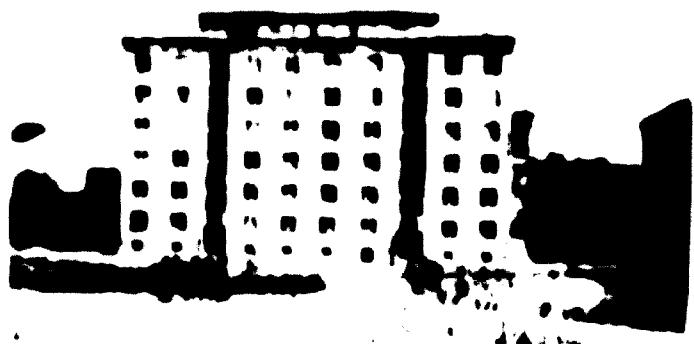
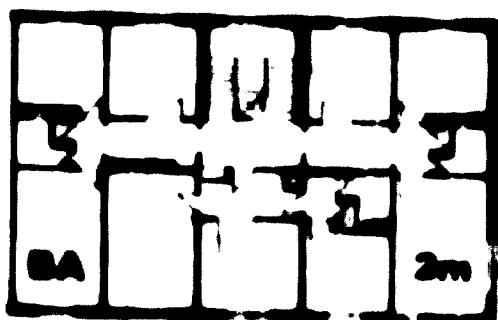


Fig. 109

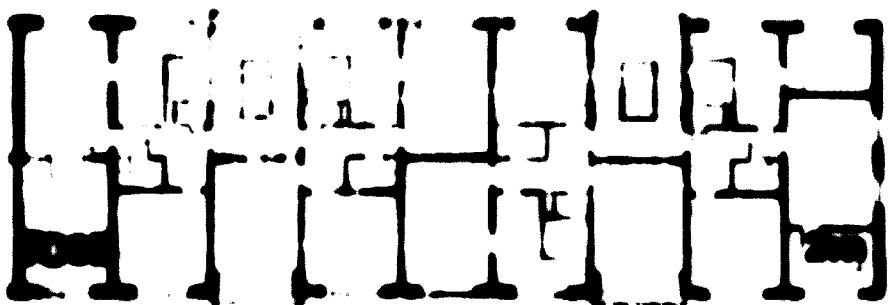


The first three fragments have
broken from panels, -
possibly "BA" /



A character with 6 loops is the eighth one
in the order of "AFP".

The layout of a double-line drawing "W.E."

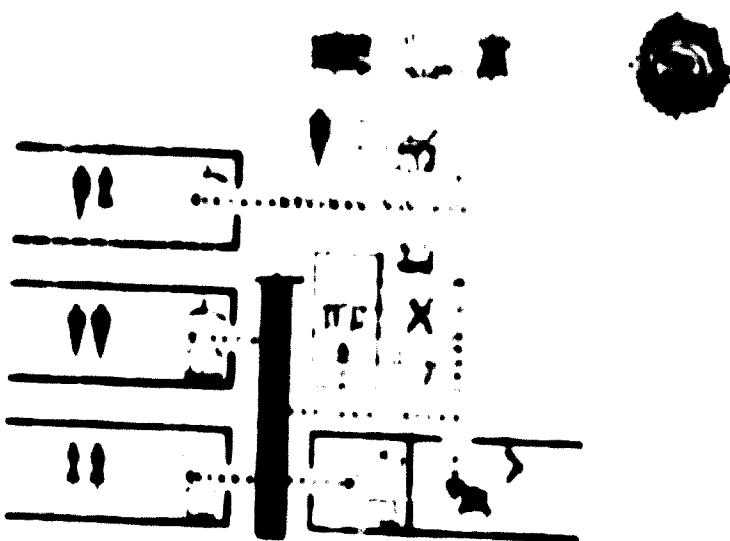


An 8-looped double-line drawing
constructed from panel 1 / "206B",



The new residential areas of the 1970s were to represent an
of dwellings - more in the second half of the twentieth and in
the beginning of the eighties.

The diagram of the dwelling



Power /points/ shown section, layout of a typical floor

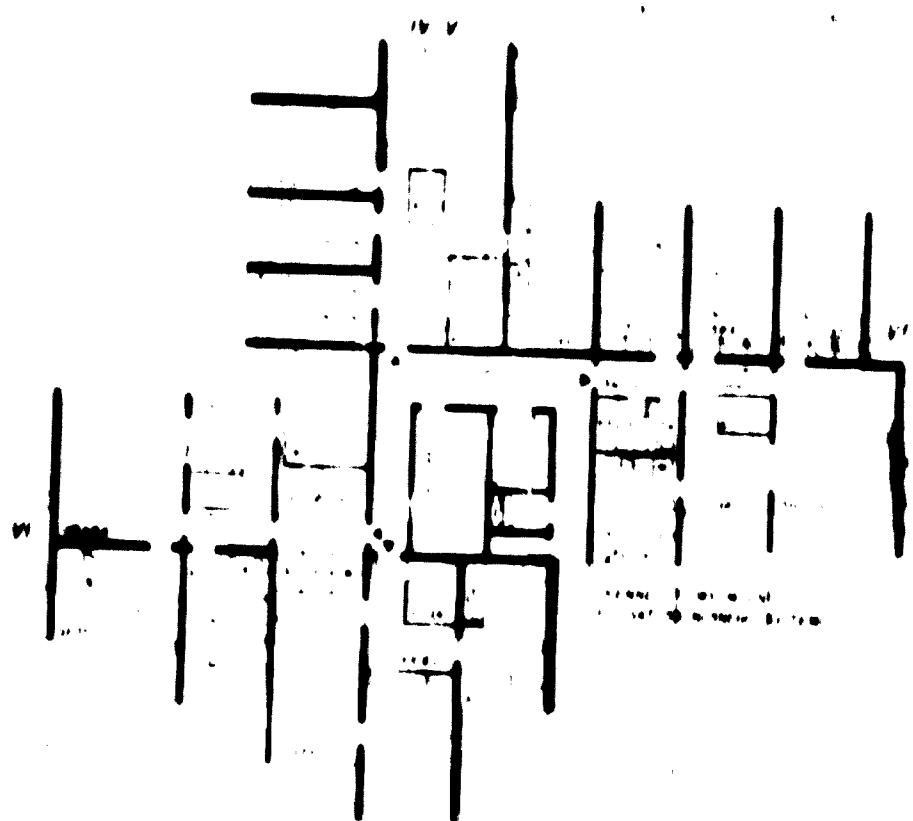


Fig. 1 - Schematic of the "MAS" monitoring system

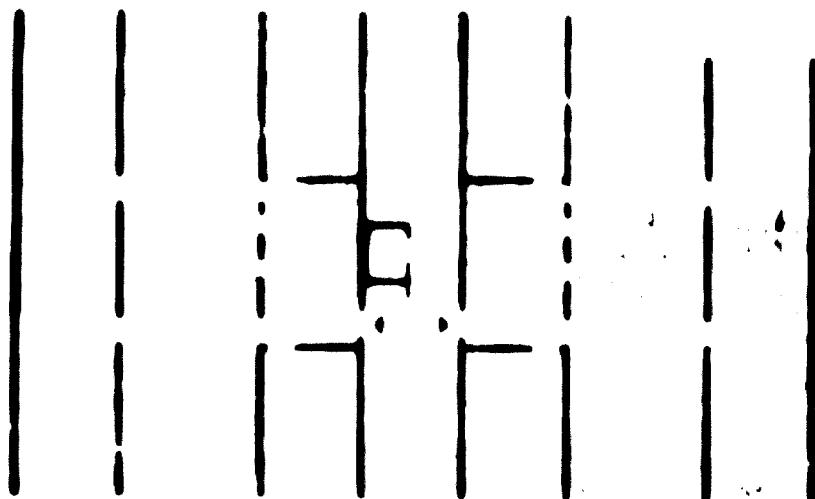
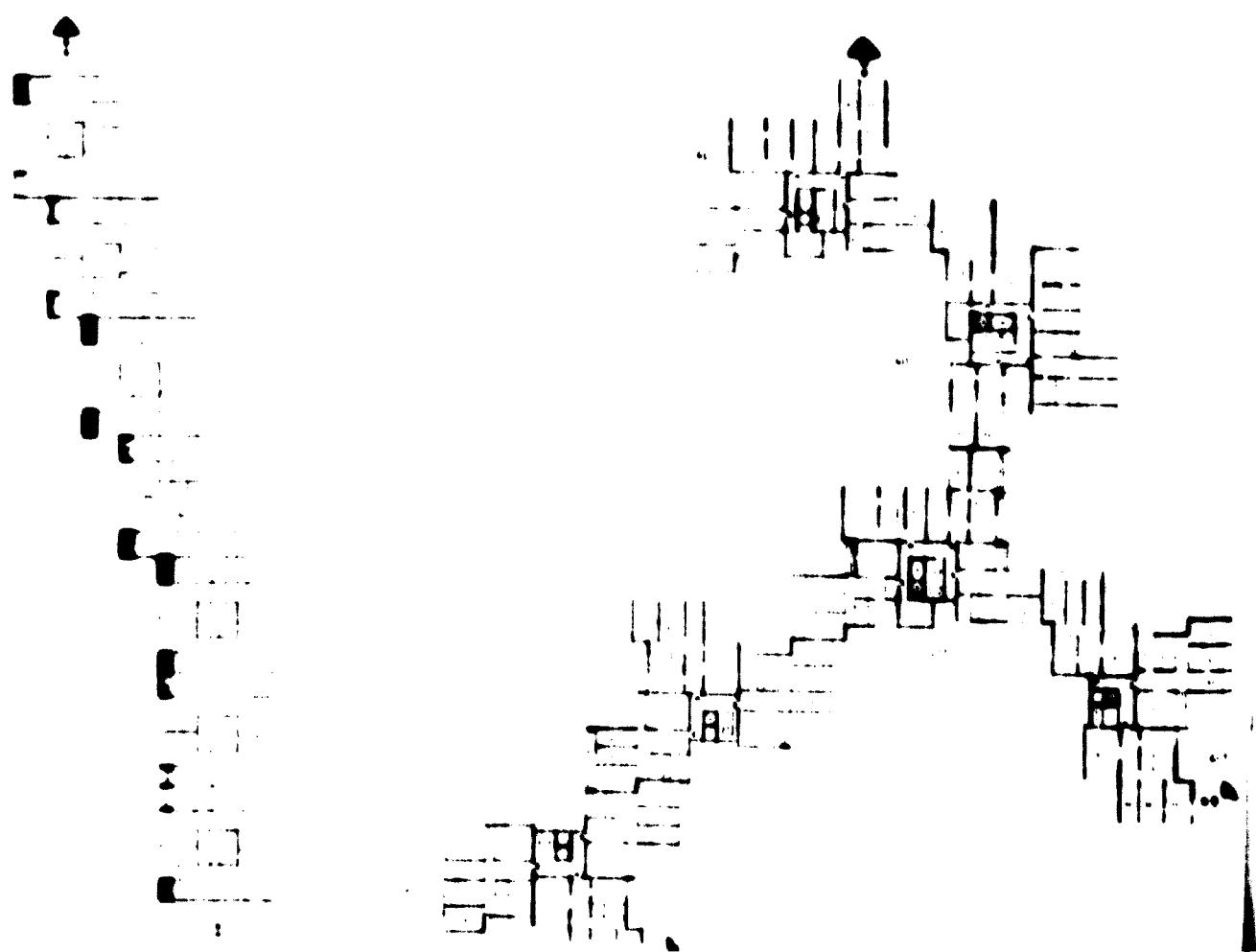
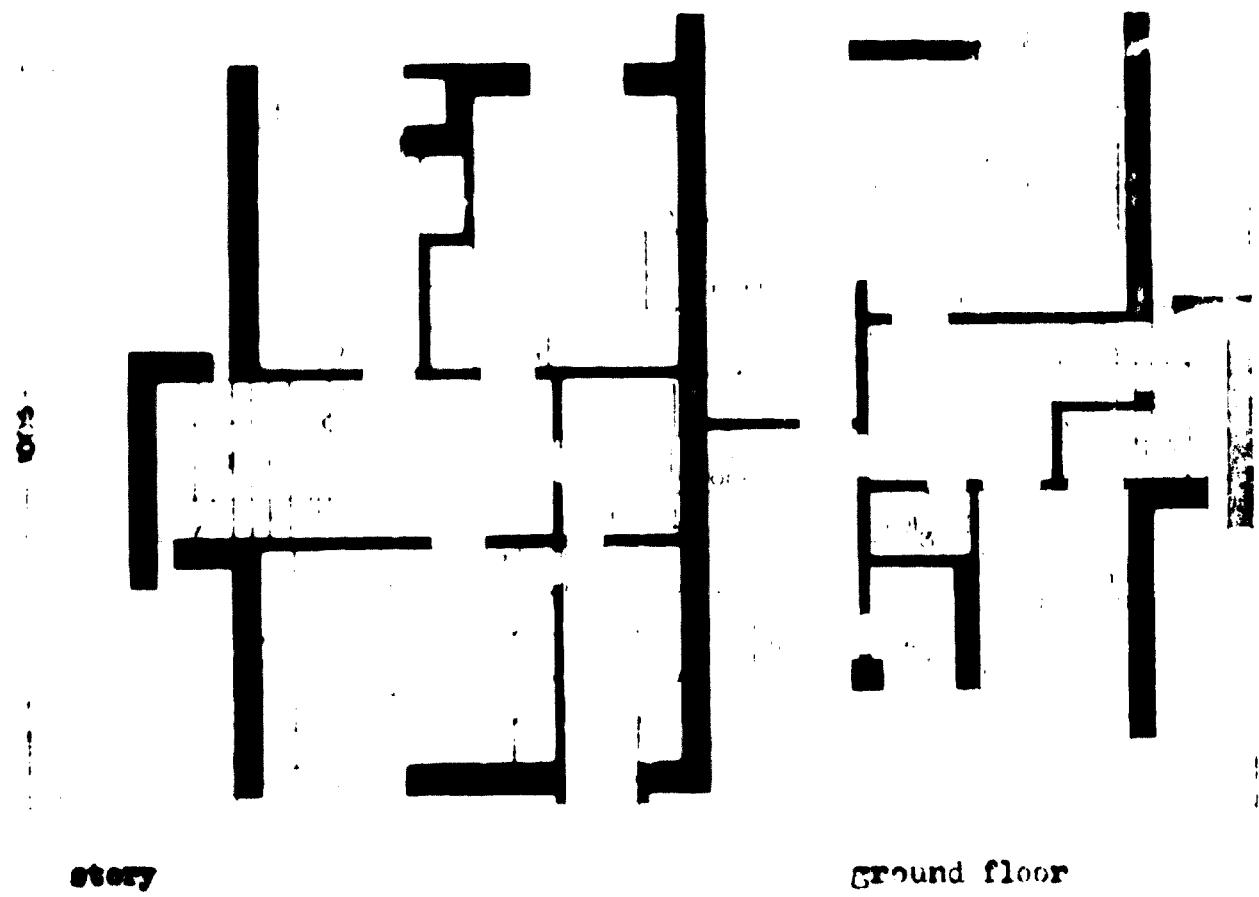
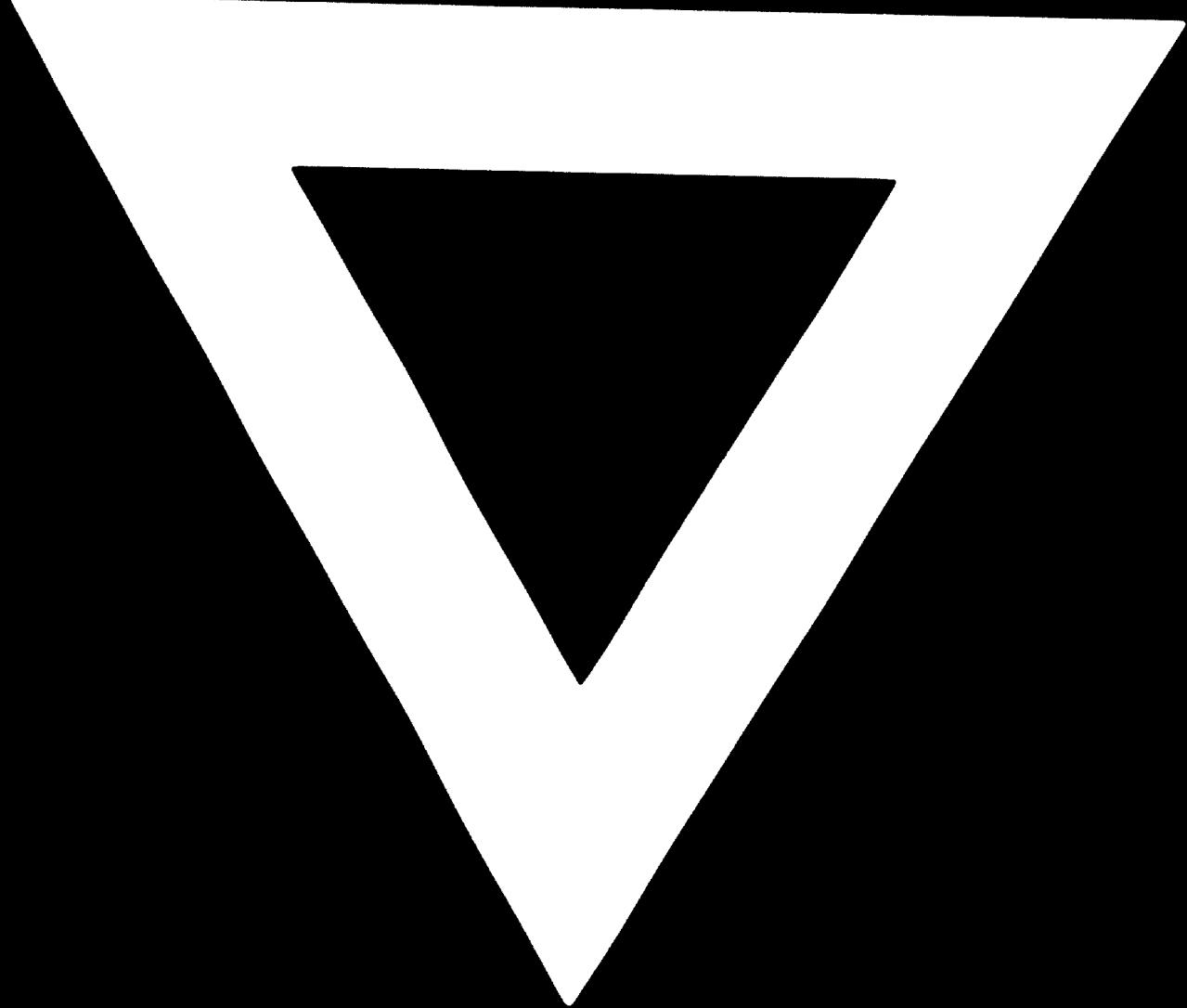


Fig. 2 - Lanning's algorithm example based on the "MAS" system



Example of new family houses built in the present time





76.01.15