



## Housing in Poland and other CMEA Countries and its Financing

Lewicki, Bohdan

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INSTITUTE OF BUILDING DESIGN

Report no. **120**

BOHDAN LEWICKI

**HOUSING IN POLAND**  
AND OTHER CMEA COUNTRIES  
**AND ITS FINANCING**

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Den polytekniske Lærestalt, Danmarks tekniske Højskole  
Technical University of Denmark. DK-2800 Lyngby 1977

PREFACE

In the spring of 1976 Professor Bohdan Lewicki was visiting professor in our department. His vast experience and thorough knowledge of the theory and technology of precast building was exploited by us and the BKF-central, for the benefit of the Danish building industry, as well as for the international teamwork on building codes for precast buildings.

During his stay, Professor Lewicki also gave several lectures at the Technical University, and for the Danish Concrete Society.

Professor Lewicki has kindly given us his permission to publish two of the lectures, "Housing in Poland and Other CMEA Countries and Its Financing" and "Structural Joints in Large Panel Building", as Report No.120 and Report No.121 from our institute. The text has been typed from Professor Lewicki's informal notes. We have re-drawn most figures from coloured drawings which were not suited for reproduction.

We are grateful to Professor Lewicki for these contributions to our set of lecture notes, invaluable to our students as well as the Danish building industry.

Johs. F. Munch-Petersen

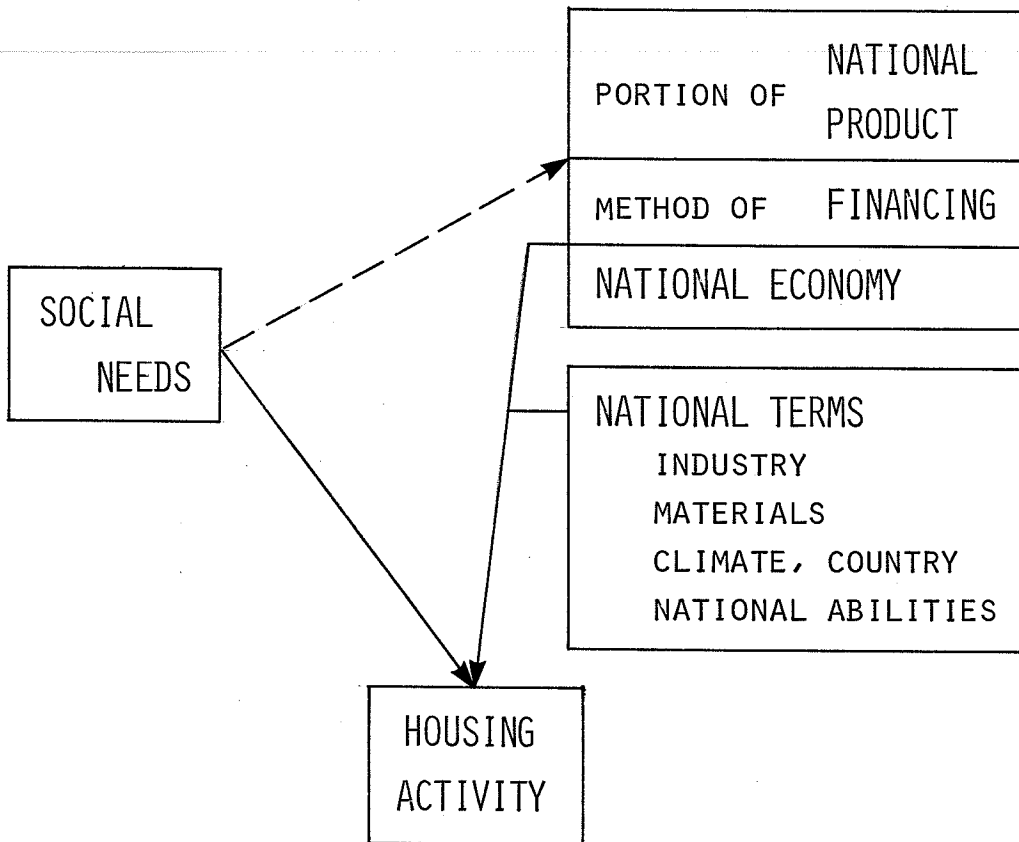


FIGURE 1

## SOCIAL STANDARDS - 1975

SU	-	1.5	PERSONS PER ROOM
PL	-	} 1.25	"
H			"
CSR	-	1.10	"
GDR	-	1.0	"

PL BEFORE THE WAR 2.0 PERSONS/ROOM (RURAL 3.1)  
 WAR DESTROYED 1.5 MIL. DWELLING = 22% TOTAL  
 FIRST TO REBUILD AND TO BUILD UP THE INDUSTRY  
 IMMIGRATION TO CITIES: 1950 - 39% IN CITIES  
 1975 - 55%

FIGURE 2

- (1) Housing is dependent on national economy. Its activity is the resultant of social needs and the national product. It is the matter of national policy which portion of the national product will be given for housing and further on in which way the housing activity will be financed.

The technical aspect of housing activity i.e. by which technical means the housing programme is to be realized depends on local conditions (national terms). It is the national economy which allows to develop modern building techniques, as a rule capital consuming ones, or restricts the techniques to conventional ones.

Poland is a socialistic CMEA state with planned economy. The state enterprises are contributing to about 80% of the national product. In other CMEA states the share of state owned enterprises is even bigger, up to 95% of the national product. In Poland the farming is in 2/3 owned by private farmers.

The state planning makes it possible to use modern building techniques to a great extent. The economy of these techniques can be considered in wide terms of the entire state economy i.e. in MACRO ECONOMY terms, different some times from the MICRO ECONOMY of particular enterprises.

- (2) Social standards in housing in CMEA countries are characterized by number of persons per room. A room is about 10-12 m<sup>2</sup>, the kitchen is considered to be a room.

Countries with the highest industrialized level are the German Democratic Republic and Czechoslovakia, with only 15% of the population living from farming and forestry. In Poland, Hungary and the Soviet Union about 25% of the population is living from farming and forestry, and in Bulgaria, Yugoslavia and Rumania - more than 33%.

The highest birth rate has been in the Soviet Union, Poland and Yugoslavia (0,9 - 1,2%).

<p>STATE ALLOWANCE MODEL</p>	<p>LODGING = <u>SOCIAL SERVICE</u> FREE OF CHARGE DIRECT STATE FINANCING &amp; ALLOWANCE TO INDIVIDUALS (CENTRALIZED POLICY)</p>
<p>SOCIAL ACQUISITION MODEL</p>	<p>LODGING = <u>CONSUMERS' GOODS</u> PAYABLE STATE &amp; PRIVATE FINANCING THE STATE IS GUIDING (CORRECTING) THE INITIATIVE IS WITH CO-OPE- RATIVES &amp; INDIVIDUALS (DECENTRALIZED POLICY) MARKET INFLUENCE</p>

FIGURE 3

(3) Two different models of financing the housing activity are discussed: the STATE ALLOWANCE model and the SOCIAL ACQUISITION one.

The first model consists of direct financing the housing activity by the state and steering the housing by administrative means (alloting the flats to individuals).

In the second model flats are considered to be a kind of consumers good, payable in principle. The initiative is decentralized and given to co-operatives and individuals.

The decentralized initiative in the second model has to be understood in right terms. The state is steering it very much by

- determining the living area of individual categories of flats (the housing standard),
- by central planning of the entire state economy and alloting the building material.

Central planning deals with labour required for construction as well.

It is to be stressed that in all the socialist countries the supply of building materials and the available labour are decisive for the housing construction rather than financial means.

The building material industry as well as the construction enterprises are state owned. The small private firms in rural areas in Poland are of trade character primarily and do not count for the balance.

The decentralized initiative refers in these circumstances to the way of financing primarily and to the individual influence on the kind of flat to be acquired rather than to the housing activity in the country.

	50	60	70	80	Population
BL	○ ○ ○	○ ○ ⊙	● ●	● ●	— 1975 — 9,1 mil.
CS	○ ○ ○	● ● ●	● ●	● ●	14,8 —"
DDR	○ ○ ⊙	● ● ●	● ●	● ●	17,9 —"
H	○ ○ ○	● ● ●	● ●	● ●	12,1 —"
PL	○ ○ ○	● ● ●	● ●	● ●	34,1 —"
R	○ ○ ○	○ ⊙ ●	● ●	● ●	20,5 —"
SU	○ ○ ○	○ ○ ○	○ ○	○ ○	260,0 —"
YU	○ ○ ⊙	● ● ●	● ●	● ●	19,2 —"

EXPLANATION: ○ — State allowance model      ⊙ — } Intermediate models  
 ● — Social acquisition model      ● — }

FIGURE 4



- (4) The development of methods of financing the housing activity is discussed.

In the first post-war period (late 40-s, early 50-s) the state allowance model was the prevailing one:

first of all - because of remodeling the economy from the capitalistic into a socialistic one and the scarce private money owned by working people, but also - because of extremistic views about the secondary role of flats in the coming socialistic society (the superiority of the community, the reduced role of family and consequently of individual flats).

In the hard times of reconstruction and remodeling the state allowance model was the more proper one. It became less and less suitable, however, with growth of economy and increased earnings.

It has come out also that the extreme views on the secondary importance of individual flats for the social life were not justified. The desire for individual flats has nothing to do with the bourgeois way of living. If people are getting better off, they are willing to contribute by their own money to better living conditions.

Consequently the state allowance model was getting to handicap the social life and should have become corrected.

There was, however, other models ready at the beginning, and it should have been worked out by successive alterations of the previous one. Those alterations were different in different countries (both in the extent and period) and consequently the housing policy and financing is different at present in different countries.

GDR and Yugoslavia were the first to proceed with alterations, next were Poland, Czechoslovakia and Hungary. The slightest changes took place in Bulgaria and the Soviet Union (the primary State Allowance Model has changed little in these countries), the biggest in Yugoslavia, where the financing of housing became totally remodeled.

The rent for the flat, which is in the CMEA countries of rather secondary importance, became in Yugoslavia the main financing factor.

The rent in Yugoslavia is high enough to cover the full maintenance cost and amortisation of the flat with some profits even. The income from the rent to the community, which owes the apartment houses, is the main source also to finance the next building activity.

Low-income population groups can get social allowance, paid through the enterprises, to meet the high rent. The communities are given state funds as loan to start with housing activity in new areas - in principle, however, the flats are market goods to be achieved by individual income.

In other socialistic countries the alteration of the primary model did not proceed so far. There is rather a combination of both the models with different extent of individual characteristics.

In Poland, Czechoslovakia and GDR the turn towards cooperatives began in the late 50-s already. Flats in houses constructed for state money directly, and owned next by the local municipalities (Local National Councils) are intended for low-income groups, whereas the better earning groups should aim for flats through cooperatives rather.

In Poland the role of cooperatives is rather strong. Besides the tenants cooperatives, with the initial members contribution ~ 15% and by term loans, there are ownership cooperatives organized as well. The initial contribution for these cooperatives is about 30% and loan terms adequately shorter.

In Czechoslovakia the cooperatives have developed rather quickly in the 60-s (up to 50% of the total number of flats), became reduced next, however, and are covering at present about 30% of the total housing activity.

In GDR after wide start of cooperatives in the middle of 60th, there came some recession in their development.

Because of new factories built in areas with less labour, the state should have to construct flats for the workers, shifted from other areas. In the 70-s the cooperatives were given a big role again (~ 35% in 75 and 45% planned for 80). A programme to build private single family houses has been established as well.

Hungary has chosen a somewhat different way. Cooperatives are rather few. The main procedure is to purchase flats by private people directly from the state companies. This procedure covers ~ 2/3 of the total number of flats. Besides single family houses, there are individual flats to be bought in multistorey buildings, directly by the individuals, without any assistance of cooperatives, as in other countries.

In Poland one can purchase individual flats in multistorey houses as well, but by tenants only, living in that flat.

Bulgaria and Rumania began to restrict the direct state construction in favour of cooperatives in the late 60-s only. Private acquisition of flats became supported there as well.

In the Soviet Union the prevalent majority of buildings, more than 80% in cities and close to 70% in the entire country, is still being built by the state directly. Alterations introduced into the primary state allowance model are of secondary importance. The cooperatives are playing a minor role. About 15% of total housing is financed by private means (in rural areas first of all). It is to be added, however, that besides of the main flat in the city more and more people own a second flat in the country ("datcha").

Second flats became recently very popular in other socialistic countries as well.

HOUSING FINANCE

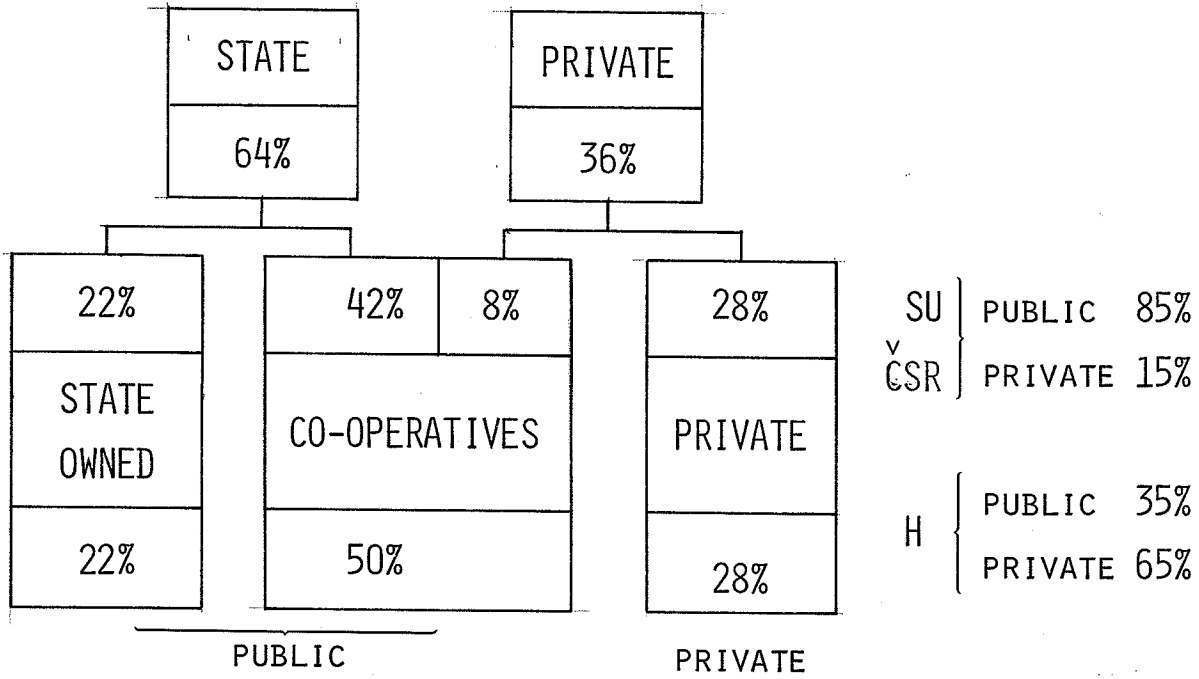


FIGURE 5

STATE OWNED NATIONAL COUNCIL INDUSTRIAL ENTER.	INITIAL CONTRIBUTION SAVINGS, BANK CREDIT LOAN FROM ENTERPRISE  5% OF CONSTRUCTION COST RETURNABLE DEPOSIT	FURTHER PAYMENT  RENT (~3% OF FAMILY BUDGET)
CO-OPERATIVES TENANTS ..... OWNERS	15% ..... 20-30%	CREDIT 85% PER 60 YEARS (5%) ..... 80-70% PER 30 YEARS (~10% OF FAMILY BUDGET)
PRIVATE	100%	TAXES (1-2% F.BUDGET)

FIGURE 6

- (5) Financing of housing in Poland is presented.

By public finance is understood the direct state financing and financing by cooperatives (~ 72% of the total).

Private finance means the direct expenditure by private individuals, though this private money could have been borrowed from the state.

- (6) Initial contribution for the residence and further payment in Poland is shown.

In case of residence in state owned buildings a returnable deposit is required only. The rent for the flat may be estimated for ~ 3% of the family budget. Estimation by the Institute for Housing, Warsaw. The allotted living area depends on the number of family members.

People with the lowest earnings are eligible for this kind of flats only. The waiting list is rather long, however.

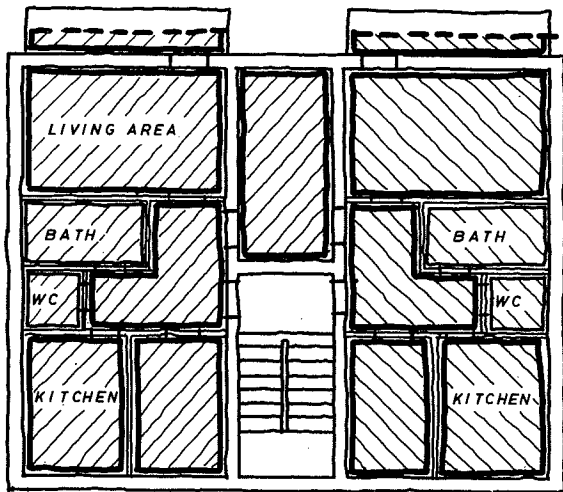
Members of tenants cooperatives have to enter with 15% of the estimated cost of building. Credit of 85% is given by the cooperative, which got this money from the state. The repayment is by 60 years instalments, which makes about 5% of the family income. Living area allotted is like that in state owned buildings, and the waiting list equally long.

Members of owners cooperatives have to pay 20-30% of the building costs. The credit is to be repaid in much shorter time, what brings about the instalments to be ~ 10% of the family budget.

The allotment of the living area to the individual members is somewhat bigger than in the tenants cooperatives, but also restricted by regulations.

The owners cooperatives are both multi-storey and low-rise, single family, whereas the tenants ones are multistorey entirely.

In case of the private construction the only restriction deals with the entire living area, which must not be bigger than 120 sq.m.



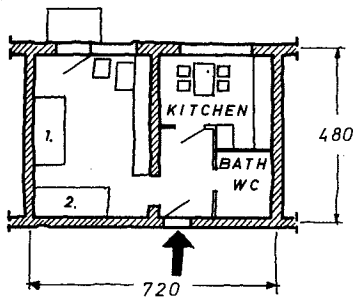
PL: LIVING AREA

M-1	25-28 m <sup>2</sup>
M-2	30-35 m <sup>2</sup>
M-3	44-48 m <sup>2</sup>
M-4	56-61 m <sup>2</sup>
M-5	65-70 m <sup>2</sup>
M-6	75-80 m <sup>2</sup>

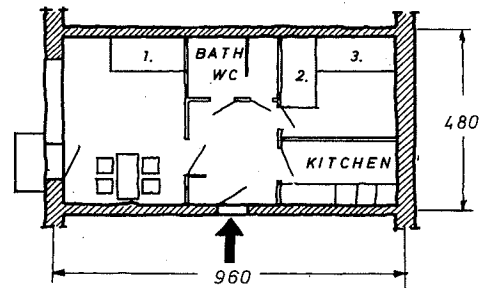
1970 : multifamily 43 m<sup>2</sup>  
 singlefamily 85 m<sup>2</sup>

1975 : multifamily 47 m<sup>2</sup>  
 singlefamily 95 m<sup>2</sup>

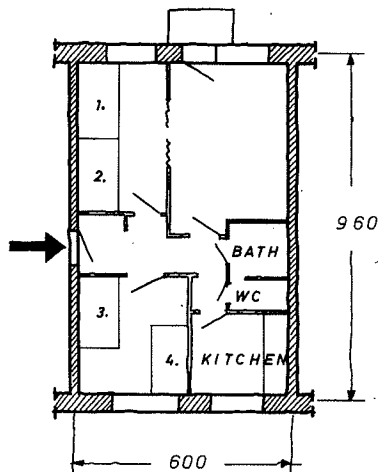
FIGURE 7



**M-2 :** 31,9 m<sup>2</sup>  
 Room 14,9 m<sup>2</sup>  
 Kitchen 7,3 m<sup>2</sup>



**M-3 :** 42,1 m<sup>2</sup>  
 1. room 14,8 m<sup>2</sup>  
 2. room 9,2 m<sup>2</sup>  
 Kitchen 5,4 m<sup>2</sup>



**M-4 :** 53,9 m<sup>2</sup>  
 Double room 25,3 m<sup>2</sup>  
 Small room 10,2 m<sup>2</sup>  
 Kitchen 6,9 m<sup>2</sup>

FIGURE 8

- (7) The living area allotted depends on the number of family members. Adequate data are presented.

The living area deals with the carpet area of individual flats only. The projection of walls and other structural elements is not taken into account.

The members for average living area of multi and single-family construction are given.

- (8) Examples of individual Polish flats are presented, for 2, 3 and 4 persons.

INTENSITY OF HOUSING.

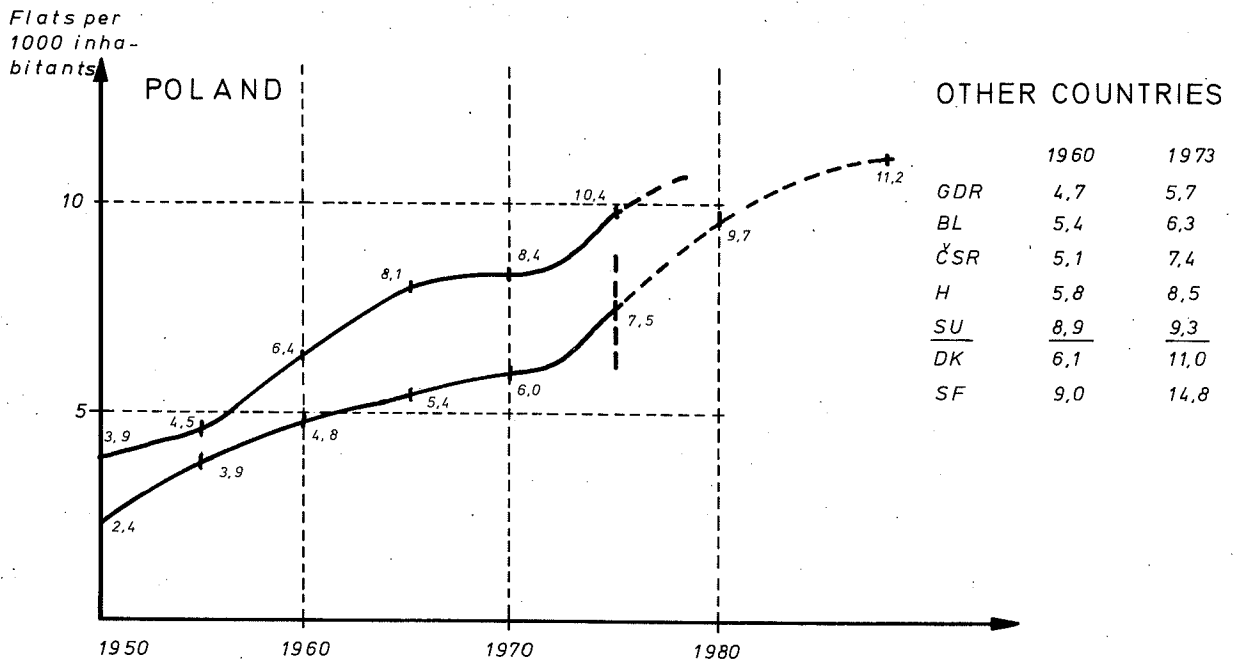


FIGURE 9

		1975	1985 (SUGGESTED)
CONSTRUCTION METHOD	CONVENTIONAL	46% (115TH. FLATS)	29% (125TH. FLATS)
	INDUSTRIALIZED	54% (135TH. FLATS)	71% (300TH. FLATS)
	LARGE PANELS	44%	51%
	CAST-IN-SITU	2%	8%
	OTHER	8%	12%
	TOTALLY	250TH. FLATS OR 14,25 MIL. M <sup>2</sup>	425TH. FLATS OR 29,3 MIL. M <sup>2</sup>
FLAT AREA	AVERAGE	57 M <sup>2</sup>	69 M <sup>2</sup>
	MULTIFAMILY HOUSES	47 M <sup>2</sup> (79% OF TOTAL)	54 M <sup>2</sup> (67%)
	SINGLE FAMILY HOUSES	95 M <sup>2</sup> (21% OF TOTAL)	100 M <sup>2</sup> (33%)

FIGURE 10

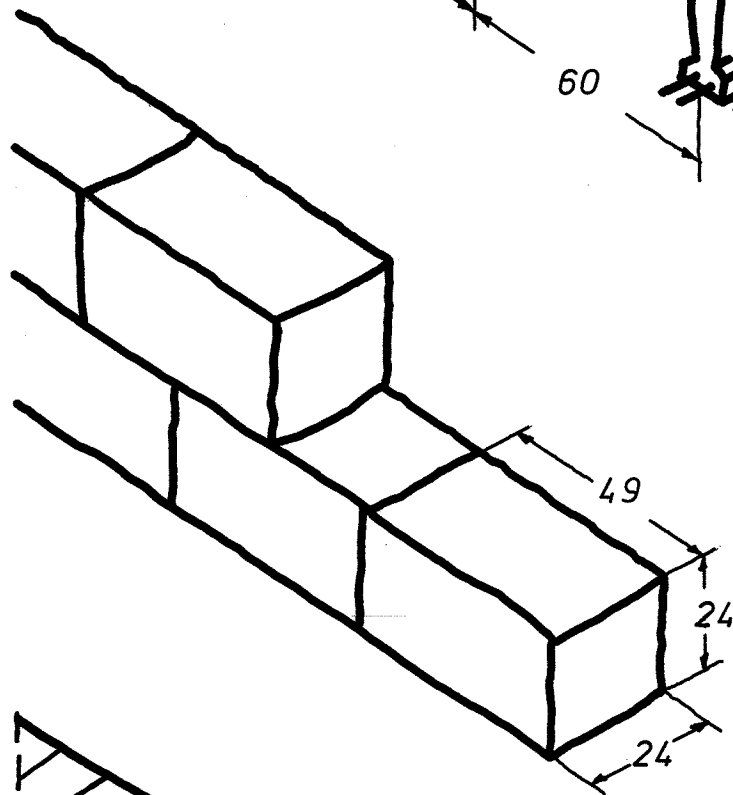
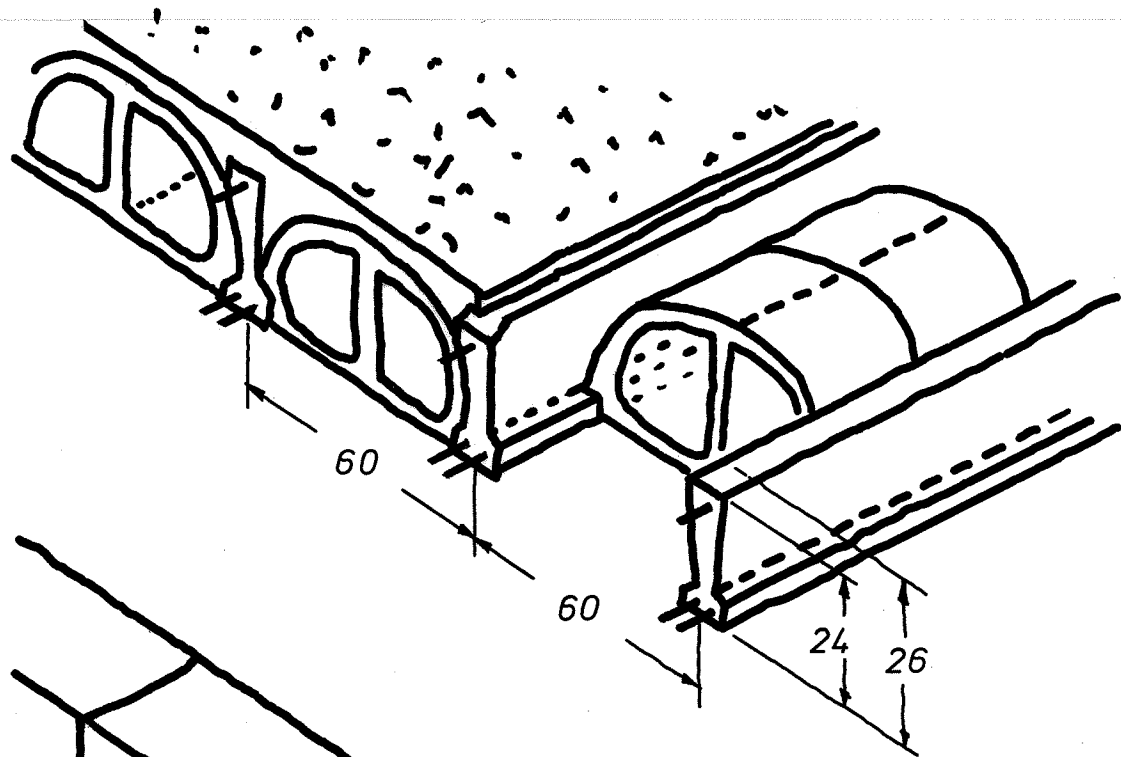


- (9) The intensity of housing in Poland and in other countries is shown.

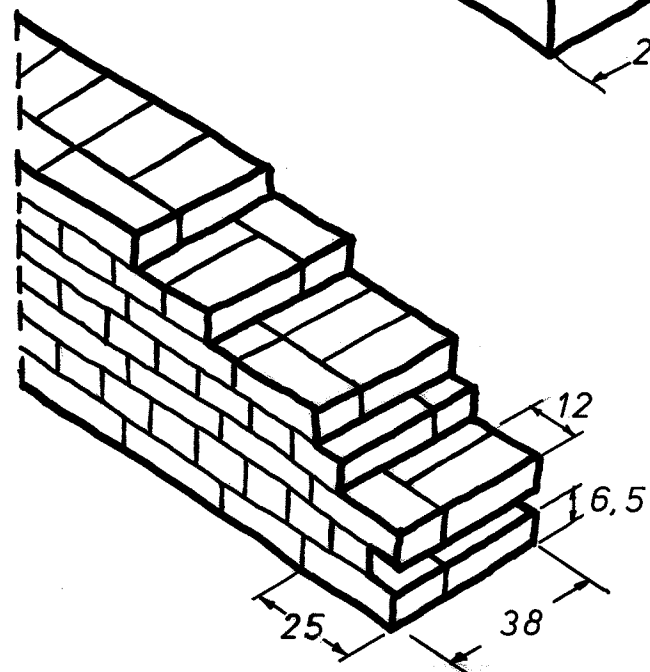
The diagram presents the situation in Poland - the total building activity (the lower curve) and in urban agglomerations only (the upper one).

- (10) Construction methods applied and planned for the nearest period in Poland - as well as the number of flats and their average area are presented.

The scope of application conventional methods will remain practically unchanged. The essential rise in numbers of flats to be built is planned for industrialized methods.



Gasconcrete:  
 $\gamma = 0,8 \text{ t/m}^3$   
 8 blocks per  $\text{m}^2$



Hollow bricks:  
 $\gamma = 1,3 \text{ t/m}^3$   
 45 bricks per  $\text{m}^2$

FIGURE 11

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(11) Conventional building method in Poland means normally floors made of prefabricated beams with concrete infills and walls made of gas concrete beams.

Hollow brick walls are seldom used nowadays.

## STANDARDIZED

MODULAR GRID, OUTLINES OF PREFABRICATES  
 FUNCTIONAL UNITS (STAIRCASE, BATHROOMS, KITCHEN)  
 JOINTS AND OTHER STRUCTURAL DETAILS  
 PRODUCTION AND ERECTION METHODS

PRODUCED BY THE SAME FACTORY

STANDARDIZED SERIES OF PREFABRICATES  
 FOR BUILDINGS WITH DIFFERENT LAYOUT, LIVING  
 AREA, ARCHITECTURE (OPEN SYSTEM PHILOSOPHY)

COUNTRY WIDE STANDARDIZATION: FLOOR SLABS,  
 INNER WALLS, STAIRCASE, BASEMENT WALLS  
 REGIONAL STANDARDIZATION: OUTER WALLS, SANITARY.

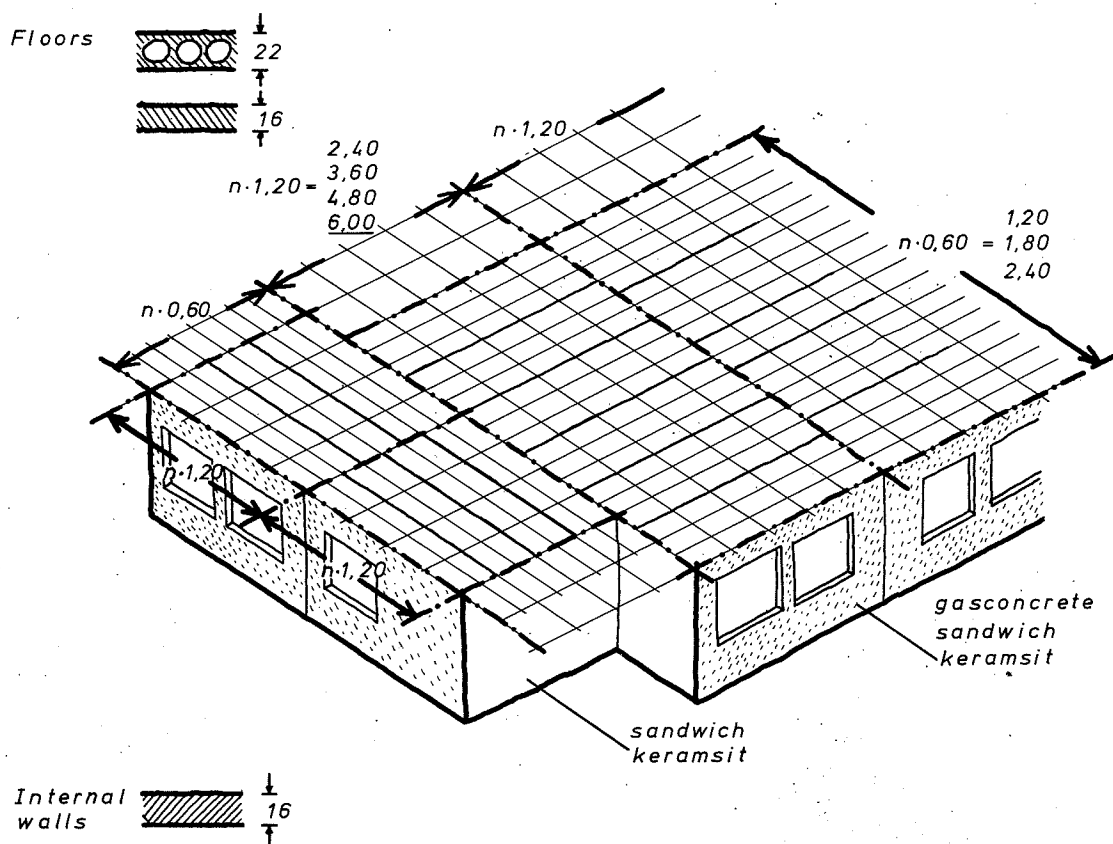
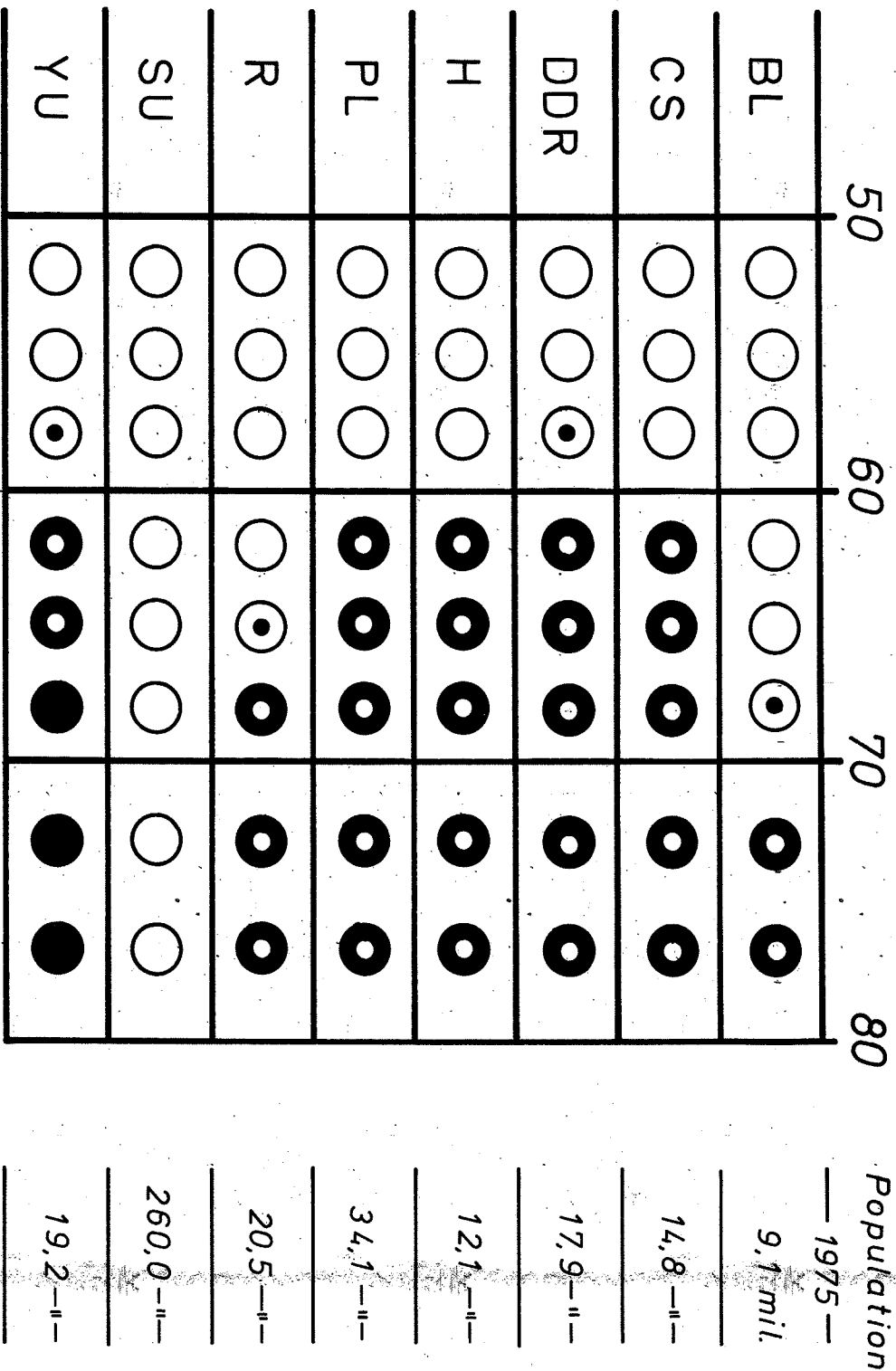


FIGURE 12

- (12) The outlines for the country wide standardization of prefabricated systems (the integration of systems) are presented.

References:

1. Building Systems in Poland - publication prepared for the II.CIB Symposium on Bearing Walls - Warsaw, September 1975.
2. Housing Building and Planning in Polish People's Republic - Warsaw 1973.
3. B. Lewicki - Development Trends of Housing in Poland - Polish/Swedish Seminar, Stockholm, June 1975.
4. W. Nieciuiski - Systems of Socialistic Housing Economy (in Polish: O systemach socjalistycznej gospodarki mieszkaniowej" - Ksiazka i Wiedza, Warsaw 1974.



EXPLANATION:

- — State allowance model
- — Social acquisition model
- — Intermediate models
- — Intermediate models

Figure 4.

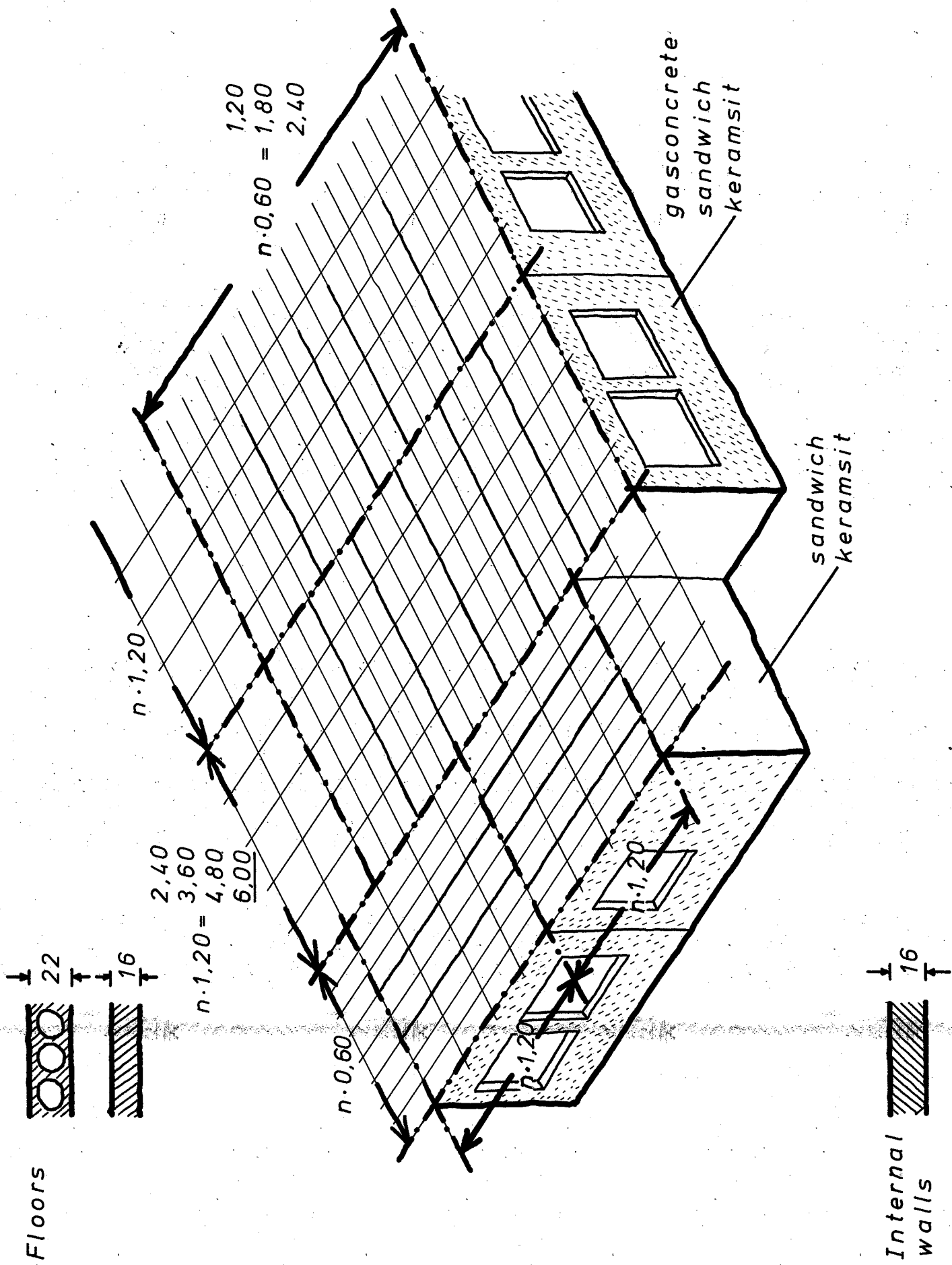


Figure 12.

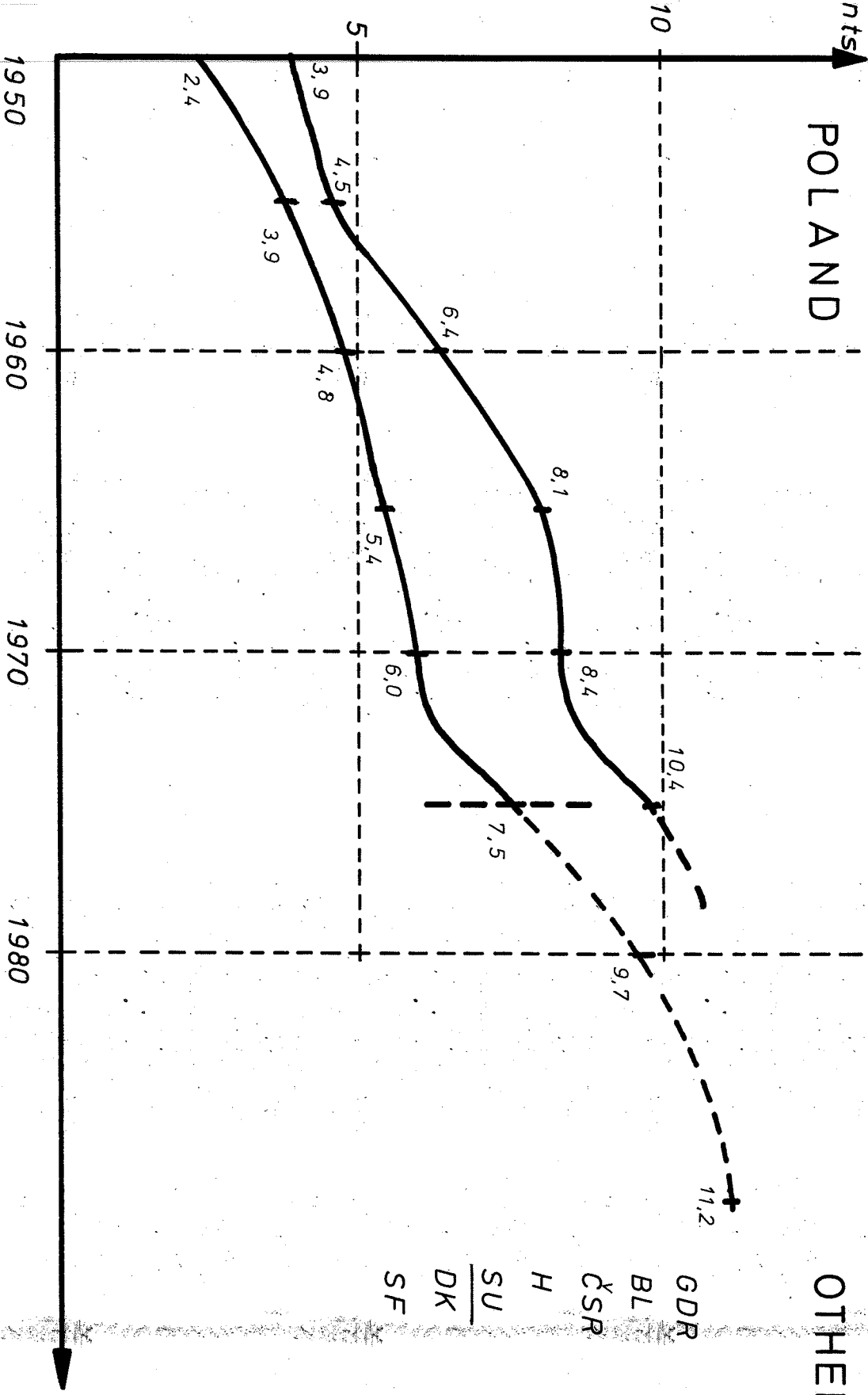


# INTENSITY OF HOUSING.

Flats per  
1000 inha-  
bitants

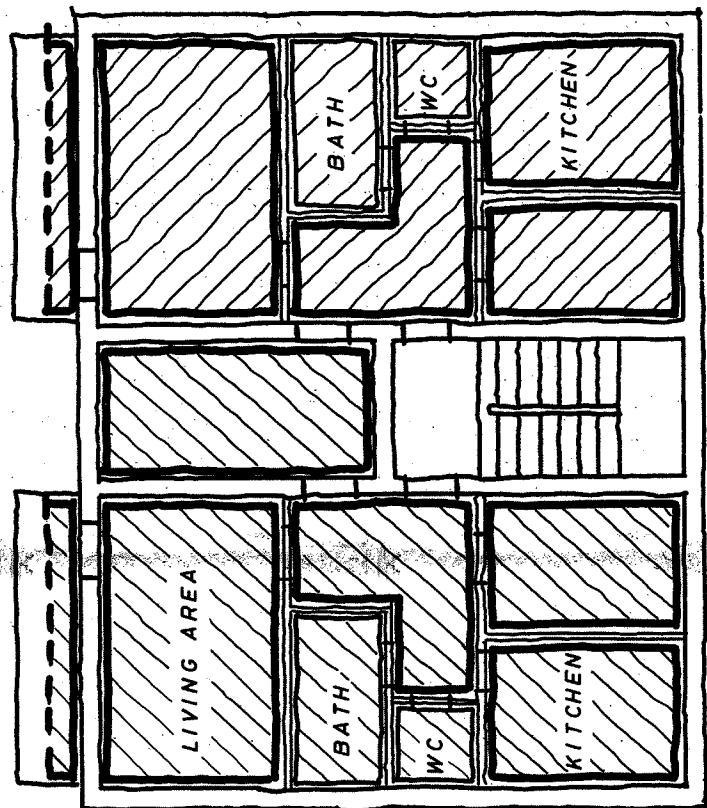
POLAND

OTHER COUNTRIES



	1960	1973
GDR	4.7	5.7
BL	5.4	6.3
ČSR	5.1	7.4
H	5.8	8.5
SU	8.9	9.3
DK	6.1	11.0
SF	9.0	14.8

Figure 9.



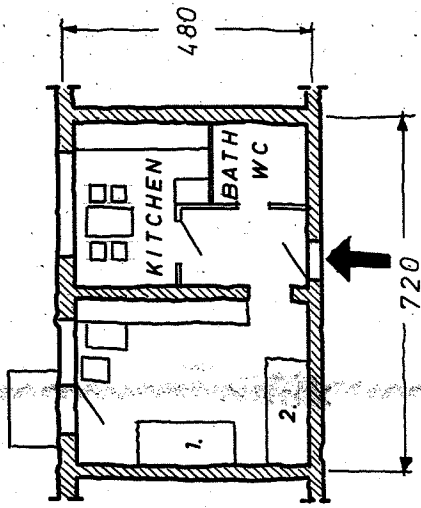
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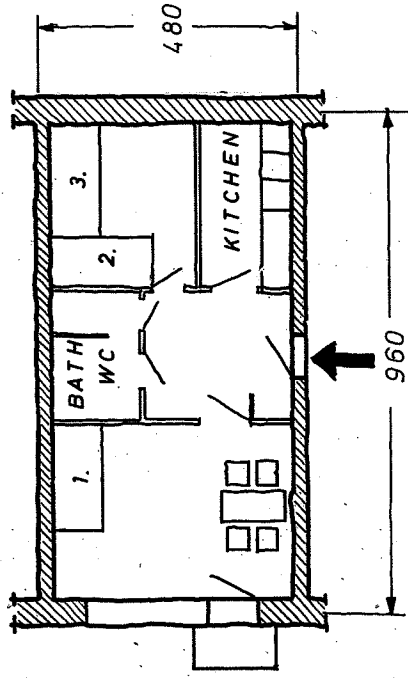
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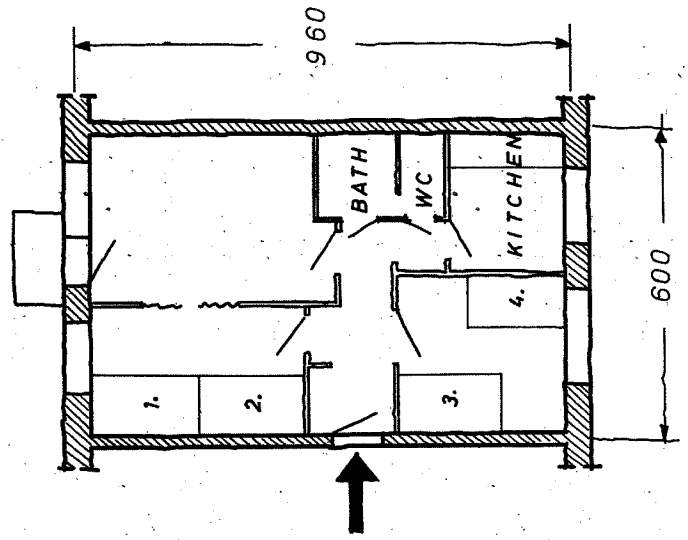
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