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# INTEGRATING FARM WORKERS INTO INDUSTRIAL AND URBAN LIFE

Hundreds of thousands of agricultural workers are leaving the farms each year in OECD Member countries and flocking to cities in search of more productive, better-paying jobs. Many others are facing completely new working conditions as they take jobs in industry or the services within their own communities.

A further outflow of workers from agriculture is necessary if the conditions of the farm population are to improve and if the economies of Member countries are to continue their growth. And the exodus of surplus manpower is being encouraged by many governments. But the migration is increasingly coming to be considered in relation to the absorptive capacity of the receiving communities. Moreover, unless provision is made for housing these workers, for helping them integrate into the community and for giving them the skills they need to make the most of their new status, severe social and economic problems are

likely to arise.

OECD's Manpower and Social Affairs Committee has devoted considerable attention to this problem. Economic and sociological studies have been conducted, joint management-trade union seminars held and a survey made of the problems and practices of 12 countries. The findings of these surveys and the results of the studies were synthesised by Dr. G. Beijer, Director of the Research Group for European Migration Problems at The Hague in a report which has just been published: "National Rural Manpower - Adjustment to Industry". The report is intended to show trends in thinking and practice in the various countries and to provide a framework for evaluating national programmes and for formulating long-term policies to facilitate the adjustment of rural manpower to industry and urban areas.

HE post-war exodus from agriculture, which reduced the farm population of OECD countries by as much as a third, has largely been spontaneous. For many workers who have left the farms, the move has been successful. But severe dislocations have been evident in some countries: waves of migrants converging

on cities where employment opportunities were scarce, creating shanty towns, high job turnover and other social and economic tensions. In some farming communities only the young people migrated, leaving behind them a community of older persons or an actual shortage of agricultural labour.

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With this experience as a background, a number of OECD countries have been trying to rationalise the movement out of agriculture, encouraging people to move to areas where jobs are available, preparing them for the new living and working conditions, helping the migrants adjust to the new community and the community to the migrants and promoting employment in rural areas to moderate the outflow.

### Preparation for migration

The new measures begin at the source of the migration, the farming community itself, and involve close co-operation between authorities in many different fields—agriculture, manpower, housing, social work and education.

Programmes of agricultural counselling are broadening in scope so that along with the more traditional advice about how to improve the farm's operation, new horizons are opened up for farm families.

One of the most comprehensive programmes of agricultural guidance is to be found in the Netherlands. It focuses on group as well as individual problems, emphasises attitudes as well as techniques and social as well as economic problems. With the help of consultants provided jointly by the Ministry of Social Work and the Ministry of Agriculture, farming communities are being encouraged to explore their own problems, to see how their situation relates to that of the country as a whole and to examine their own attitudes to change. The possibility of giving up farming may be introduced by the counsellor as one possible solution to the problems examined. If migration seems to be the appropriate solution for some individuals, immediate contact is made with the manpower authorities whose job it is to help the worker make the most rational choice possible of area and job and avoid blind moves. (Such contacts are also assured in Sweden by conventions between the agricultural and employment services). The manpower authorities are for their part aware of government regional development policies so that they can direct the workers toward areas where new poles of urban attraction are being established rather than to overcongested cities.

Novel means of communication are being developed in some OECD countries to make information about opportunities more readily accessible to potential rural migrants, the use of microbuses carrying labour market literature in the Japanese countryside, for example. In Italy the employment bureaus are trying to develop a system of work contracts for farm workers to be signed before they leave agriculture.

There is close co-operation too in many countries with the educational authorities, since one of the basic

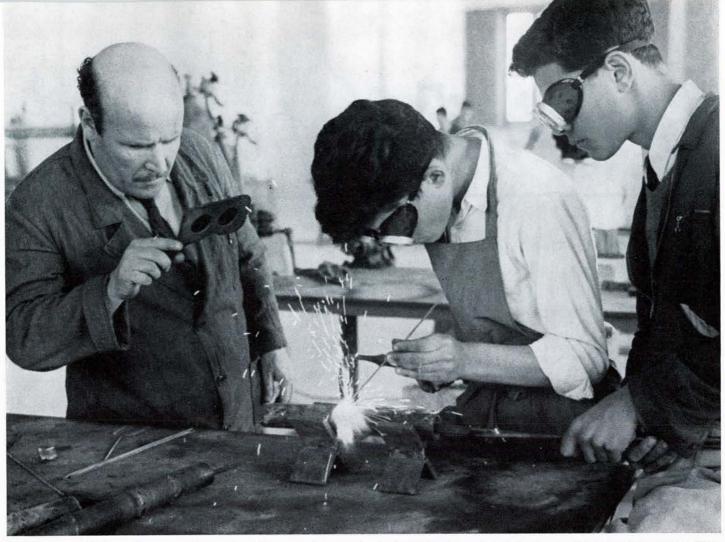
obstacles to urban adjustment is the discrepancy in educational levels between the rural and urban populations. The French Ministry of National Education among many others is making special efforts to raise standards of schooling in the agricultural districts to the urban level. Programmes of more specialised occupational training are widespread, for example those conducted by the Cassa per il Mezzogiorno in the South of Italy (the Cassa also has a training centre in Turin); in several countries the armed forces are trying to help rural youths prepare for new occupations during their military service. This is true, for example, in Turkey.

In a number of countries an attempt is being made to give workers a realistic idea in advance of their departure of what urban industrial life is like—its advantages and drawbacks. Such an effort is being made in France: candidates for migration are taken to industrial centres where they visit factories, are housed with the families of industrial workers and are given the opportunity of talking with trade union leaders and other employees, particularly those who have themselves made the transition from farm to factory. Some of the candidates for migration have been discouraged by these visits and have changed their plans.

### Action in the urban centres

A host of measures are being taken by public authorities, municipalities, trade unions, employers and philanthropic groups to help the migrant adjust once he arrives in the city. In Turkey where a great number of rural people have settled since the war in "Gecekondu" (literally hovels built by night) on the outskirts of the big cities, the Government began in 1962 (and as part of an overall development plan) to transform the dwellings into suitable lodgings and to move some of the inhabitants to other housing areas in the cities. action was undertaken by the Ministry of Construction aided by a sociologist whose job it is to help the residents adjust to their new environments. The Gecekondu inhabitants have also been taught to read and write and in some cases given the opportunity to pursue further basic studies and/or vocational training.

The large Italian cities have set up reception centres in railway stations and social centres (450 of them) throughout the North to provide a wide variety of services. In Turin, for example, social helpers go to Genoa to come back on the train with migrants travelling from the south so as to make preliminary contact with them. This is followed up by counselling on social and cultural activities, care of children, house-keeping and how to procure appropriate housing. Temporary lodgings for rural workers are provided in Italy and also in the Netherlands and Norway. Norweg-



Measures are being taken to train workers from rural areas for industrial jobs and to help them adjust to urban ways of life.

ian migrants who have had to leave their wives in the country receive special allowances and provision is made for them to visit their families. The city of New Haven and the State of North Carolina in the US have comprehensive programmes for helping workers from the south to find their way in the city. Employers in many countries and trade unions in Norway carry out orientation programmes at the plant for the new workers. Japanese rural migrants are helped to keep in close touch with their families through the use of tape recordings.

Increasingly, attention is being focused on the longerrange assimilation of the new workers to their community. Sociologists have come to consider this long term problem in terms of bridging what they call the "social distance" between the migrant and the community in which he settles, the more difficult problems of adjustment arising particularly when the economic level, the cultural background or religious beliefs of the two groups are substantially divergent. In recent thinking about adjustment problems emphasis has been given to the interaction between the migrant and his new environment, so that integration is seen as a two-way process requiring adaptation not only on the part of the individual but in the structure of the community as well. Thus concern with improving the social and cultural infrastructure of the receiving community is becoming more pronounced: for example subsidies are being given to cities for this purpose in the Netherlands, the funds to be used for building community centres, libraries and other facilities.

At the same time there has been growing awareness of a phenomenon in which workers who appear to adjust well at first later become disillusioned and return to their home communities, change jobs frequently or drift away to other, more congested urban areas. The process of adjustment has been found to be a very gradual one and thus continuous concern with integration is taking precedence over programmes designed only to ease the initial stages of adjustment.

OECD's survey of practice and thinking in Member countries shows an increased concern with the co-ordination of measures taken in the city with those taken on the farms and with those which help the workers during the actual process of transfer.

There is thus a growing tendency to consider the problem of adjustment as one that requires a system of interrelated measures affecting the point of departure as well as the receiving city, private and semi-public bodies as well as the public authorities, the community as well as the individual, and social and educational structures as well as economic ones.

## Belgium's policy for

For most OECD Member countries the idea of formulating an explicit policy for scientific research and technological development is new, and the content of that policy, as well as the mechanisms for implementing it, are still in the early stages of elaboration. The need for continual evaluation and experimentation therefore is particularly acute in this domain.

For this reason OECD Member governments felt that it would benefit each of them to gain familiarity with the problems and actions of the others, and therefore asked OECD's Committee of Scientific Research to examine in detail the experiences of individual Member countries.

At the request of this Committee, M. Pierre Piganiol of France, former Délégué Général à la Recherche Scientifique et Technique and Dr. A. Copisarow, Deputy Controller of the UK's Ministry of Technology, in co-operation with the Belgian authorities, undertook an examination of Belgian science policy.

an the smaller countries keep pace with the giants in the crucial but costly domain of scientific research? Will they be able to make contributions on their own or must they depend on foreign technology? Can a balance be struck between the free development of fundamental research and the pressing need to harness science to the development of exportable specialities?

Belgium is one of the countries that has been thinking most actively about these problems and since the late 1950's has been making a systematic attempt to deal with them. In 1959 new organisms were created to elaborate and carry out a science policy, which was conceived in the broadest possible sense, that is to include the fundamental as well as the applied sciences, the human and social as well as the natural and exact sciences, and higher education as well as research.

Belgium's scientific infrastructure was in many respects highly developed when the new programme began. Her civil engineers have enjoyed an international reputation ever since the 19th century. Research in certain large firms and in such areas as special materials was highly developed, and the quality of scientific and technical education was high. But the government felt that future developments in world trade on which Belgium depends heavily - 80 per cent of her industrial production is exported — would

become more and more closely related to technological primacy. And there was a tendency for Belgium to grow increasingly dependent on foreign technology.

One of the first activities of the new scientific bodies (see inset for a description of them) was to find out just where Belgium stood in the matter of scientific research — how much was being spent and on what projects, what were the sources of finance, how large was the country's stock of scientific researchers and educators. Among the sectors examined most intensi-

vely was that of government itself.

A second initiative on the part of the Belgian authorities was to elaborate new budgetary techniques designed to make the best possible use of public research funds. Previously each Ministry had kept its own accounts of expenditures for the scientific projects under its aegis, and these were ordinarily lumped together with other types of expenditure so that the extent of the total governmental scientific effort was unknown. Under the new programme each Ministry is encouraged to separate out from its general expenditures those devoted to research and development and to indicate what projects they intend to support. The result is a first approach to a science budget — an integrated picture of government activities with details on sources and uses of funds. With these figures in hand, the authorities can see what should be the overall

## the sciences

distribution of government funds, and are able to review the use of resources in light of the aims of science policy.

As the picture of the prevailing scientific and technological research effort became clearer, the government was able to define the broad objectives of its science policy:

- to increase the scientific potential of the nation;
- to spread scientific effort in such a way as to stimulate fundamental research as well as research geared to the needs of the economy;
- to encourage industrial research which might lead to the launching of new products;

• to co-operate in scientific affairs with other countries, particular emphasis being placed on intra-European co-operation.

Perhaps the most important step taken to translate these objectives into action is the reform of the educational system, many of the elements of which were recommended by the National Council for Science Policy. The programme includes an expansion of existing universities, the creation of two new institutions at Antwerp and Mons, measures to diminish regional discrepancies in educational opportunity and to increase remuneration of the teaching staff. Particularly important from the point of view of the sciences is the reform

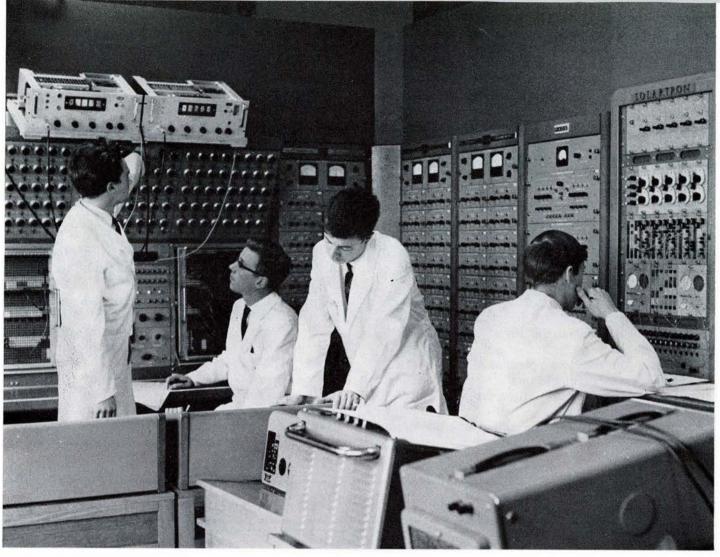
### GOVERNMENTAL SCIENTIFIC ORGANISMS IN BELGIUM

	MEMBERS	FUNCTIONS
MINISTERIAL COMMITTEE FOR SCIENCE POLICY Created in 1959	Prime Minister, Minister of National Education and Culture, Deputy Minister of Culture, Minister of Defense, Minister of Agriculture, Minister of Economic Affairs and Energy, Minister of Public Health and the Family, Deputy Minister of Finance.	A decision-making and co-ordinating body. Formulates and carries ou the country's science policy. Coordinates the actions of the ministeria departments concerned, particularly in budgetary matters. The Cabine retains the final power of decision.
NATIONAL COUNCIL FOR SCIENCE POLICY	27 members appointed by the King for a period of 6 years representing scientific research, higher education and social and economic sectors. A secretariat.	To counsel the government in its elaboration of a science policy. Collection of information. Analysis of problems. Recommendation of solutions. The secretariat of the CNPS also carries out work for the :
INTERMINISTERIAL COMMISSION FOR SCIENCE POLICY Created in 1959	Presided over by the President of the CNPS (above). High-level civil servants representing departments concerned with science policy.	Prepares and executes the decisions of the Ministerial Committee affecting several departments.

#### FINANCING ORGANISMS

In principle all scientific funds go through governmental departments. In practice, a substantial portion is given over to specialised autonomous bodies - the Big Foundations which were started with private donations but now operate almost exclusively with government funds. They are: • IRSIA - Institute for the Encouragement of Research in Industry and Agriculture.

- FNRS National Foundation of Scientific Research.
- Interuniversity Institute for Nuclear
- Science. Foundation for Collective Fundamental Research. Foundation for Medical Research.



Future engineers at Ghent University being taught to use electronic equipment.

of the school-stream system. Until recently a student had to choose his stream of secondary education at age 15, and thus a young person who took Greek and Latin, for example, was not eligible for either of the two science faculties (Faculty of Sciences and Faculty of Applied Sciences). In June of 1964, however, a law was passed which in effect postpones the decision to about age 18: students from secondary school are now permitted to enter any faculty regardless of their secondary school-stream.

Measures have also been taken to encourage young people to take up research careers. Until recently in Belgium research workers who were not also professors have had very little security. A research assistant in a government laboratory, for example, was normally engaged for two years and a maximum of three possible renewal periods with the result that after 8 years he risked finding himself out of a job. To remedy this situation and to create a government research corps, career posts have been established. There are three grades of researchers - assistant, research director and "agrégé" - each with a specified salary range and each corresponding to a similar level in the teaching profession. This should permit research workers to have a new status and lifetime careers. It is hoped that the system can be extended to the big foundations which are responsible for much of Belgium's scientific research.

So far, the examiners note, the Belgian programme for strengthening the sciences has been mainly concerned with inventing new structures and reforming procedures. But this stage is largely completed, and the next step will be to effect changes in the volume and nature of scientific expenditures. This new orientation will present some very difficult and delicate problems for the policy makers in the next few years.

If the Belgian scientific effort is to keep pace with that of the rest of Europe — as the Belgian authorities feel it should — national expenditure on research and development will have to increase from its present 1 per cent of GNP to 2 per cent by 1970. But the contribution of the Belgian Government to the nation's scientific effort is now considerably lower than that of the average European country — roughly 40 per cent as against 65 per cent. If, therefore, the Government wishes to follow the European example, public research expenditures, which have already increased by 80 per cent in the present decade, will have to triple by 1970, not to mention the increased amounts which will be needed for education.

Moreover, the Government will have to grapple with the difficult problems of how to exert an influence on research in the private sector. The inventory taken by the National Council on Science Policy has shown that in this domain there is a divergence between the aims of policy and the actual distribution of public expenditure. The policy objective is to foster research likely to result in competitive products for export. But the science budget shows that only about 6 per cent of the government's science funds are being directed to private industrial research. And most of this is being devoted to co-operative research, conducted jointly by all the firms in already established industries. The government feels that such joint research is less likely to develop new products than would aid to individual firms engaged in competitive research. the problems of choosing which firms or which researchers to favour is a delicate one for the Belgian Government and the CNPS is seeking a way to make objective choices which cannot give rise to charges of favouritism. A choice must be made as to techniques of support as well. Government research and development contracts are virtually unknown in Belgium, nor is favourable tax treatment given to research and development activities as is the case, for example, in the UK.

Belgium's science policy authorities are well aware of the difficulties that will arise in the next few years, and the examiners answer their own basic question about the future in the affirmative:

"We have the impression that Belgium has all the elements which would permit her to hold a ranking position in the field of advanced technology."



Students at the chemical research laboratory, Liège University.

### THE BELGIAN GOVERNMENT'S SCIENCE BUDGET

(Public research allocations by destinations)

The largest portion of public research funds goes to the universities, mostly for fundamental research. There is little programming of this research in terms of scientific priorities. Rather the allocation is made according to the quality of the researcher and the project.

Almost a third of the government's science expenditures are devoted to research on space and the atom. The funds are largely directed to international organisations such as EURATOM, ELDO, ESRO and Eurospace; thus expenditure on international cooperation comes to more than 10 per cent of the science budget. However, much of the work is channeled back into Belgian laboratories so that the net contribution to international organ-

isations is currently only 1.9 per cent of the budget.
Research allocations to the private sector consist almost exclusively of subsidies for co-operative research for which the government pays up to 50 per cent of the cost. The other half is financed by all the firms in the industry concerned. An example of co-operative research is a project in solid state physics in which several industries – optics, chemicals – have an interest; work is carried on jointly in these industries and at the University of Ghent.

	Year and percentage of total										
	1961 (millions of Belgian francs)	%	1962 (millions of Belgian francs)	%	1963 (millions of Belgian francs)	%	1964 (millions of Belgian francs)	%			
Universities and higher education centres	2,146	62.3	2,410	62.2	2,507	58.4	2,714	57.8			
State scien- tific estab- lishments	949	27.6	1,093	28.2	1,301	30.4	1,472	31.4			
Private sector (cooperative research) and individual firms	154	4.5	176	4.5	266	6.2	298	6.4			
International organisations	77	2.2	83	2.2	105	2.5	87	1.9			
Miscellaneous	116	3.4	112	2.9	106	2.5	119	2.5			
TOTAL	3,442	100.0	3,874	100.0	4,285	100.0	4,690	100.0			

### BETTER INPUT/C FARM MANAGEN

A pioneer programme, sponsored by OECD, for stimulating co-operation between scientists and economists in research projects concerning beef production and milk production, has completed its early stages and is expected to yield very valuable results over the next three years (1966-1969). The purpose of this research is to provide much-needed information concerning the physical input/output relationships for these two animal products, which are of growing importance in national and international trade.

esearch in agriculture, under the influence of increasing specialisation among agricultural scientists, is becoming more and more fragmented. Concurrently, the number of separate disciplines which combine to form the general concept of agricultural science is continually increasing as new scientific discoveries are made and their application to farming practice is developed.

But the discovery of new principles and their application invariably raise new questions concerning the use and allocation of scarce resources. At any one point in time the supply of resources is limited, often they are expensive and always they have alternative uses within agriculture and between agriculture and other sectors of the national economy. The subject is the particular province of the agricultural economist. If optimum advantages are to be obtained from research results in the technical field. then it is essential to establish and maintain the closest possible links between natural scientists and economists because only in this way can we ensure that degree of integration of knowledge and understanding necessary for improved decision-making and the best and most profitable allocation of scarce resources.

This understanding and co-operation is particularly important to the development of knowledge concerning the physical input/output relationships in agricultural production such as the response of crops to increasing inputs of fertilisers, crop protection and irrigation water and the response of livestock to increasing quantities and qualities of feed. The estimation of these and other input/ output relationships, as well as with their various derivatives such as rates of substitution between production factors and between products is, together with unit cost and price data, essential to the adequate solution of production and resource use problems of maximising profits or minimising costs whether it be on an individual, regional, national or international basis.

To achieve these objectives, natural scientists must learn more about the concepts and analytical methods of the economists. Similarly, agricultural economists must have a closer acquaintance with the results of technical research so as to find out how modern methods of economic analysis can best be applied to the solution of practical problems.

To pass from theory to practice, studies in four sectors of production are currently being pursued by national teams, under the sponsorship of OECD. The four resulting monographs will deal with input/output relationships for beef production (Uni-



Soil conservation: studying the effects of nutrients

### JTPUT DATA FOR

agricultural economists co-operate with natural scientists in research

In deciding to encourage and assist the development of these activities the OECD Committee for Agriculture has in mind not only the requirements of individual producers for information in planning the best use of their own resources. The results will also help to satisfy the ever-increasing demand for information concerning input/output relations in agriculture being made by those on the policy and other levels whose task it is to plan and direct the use of resources in agriculture, whether it be in a regional, national or international context.



INT

ole-tree growth.

ted Kingdom team), milk production (Netherlands team), poultry production (United States team), and the use of fertilisers for crops (Swedish team).

The monographs will also provide guidance for the further establishment and conduct of co-operative research into input/output relationships. These input/output data will be useful to research workers in the various OECD Member countries. The data will also provide a useful source of information to countries where research in applied agricultural science and in the econometric aspects of agricultural production and resource-use is only now beginning to be developed.

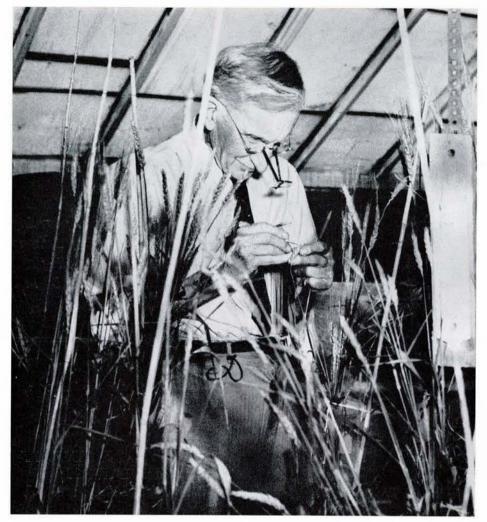
The next stage in the development of this OECD activity will take the form of a practical demonstration of the concepts and methods outlined in two of the monographs, the subjects chosen for this purpose being beef production and milk production. A programme of co-operative research and experimentation will be undertaken by a number of Member countries. The work will be planned, directed and the results interpreted iointly by teams of natural scientists and agricultural economists and will extend over a period of three years. The objective of these research programmes is to obtain essential information concerning the nature of some of the more important input/output

relationships in beef production and in milk production.

### RESEARCH IN NORTH AMERICA

The present situation of interdisciplinary research of the kind outlined above was considered at a Seminar which met under the auspices of OECD; the report of this Seminar has recently been published under the title "Co-operation between research in agricultural natural sciences and agricultural economics" (No 65, OECD Documentation in Agriculture and Food).

According to Professor Earl O. Heady, of the Department of Economics and Sociology of Iowa State University, an OECD consultant, joint research activities by technical scientists and agricultural economists have become increasingly common in North America over the past decade. Cooperative studies have already been conducted at several research institutes. The major area of co-operative endeavour in experimental design and analysis and interpretation of data has been concerned with the responses in crop production to the use of fertilisers and the prescription of recommendations to farms on the



A scientist at a North Dakota agricultural experiment station examines the development of wheat kernels.

economic optimum use of fertilisers. Progress is being made, but it will be several years before adequate and sufficient data on input/output relationships are available to provide farmers with a complete range of soundly based economic recommendations.

Animal scientists and other technical experts have shown considerable interest in these studies, and as a result necessary information is now becoming available which allows tentative estimates to be made with respect to a limited range of production functions for livestock.

#### PROGRESS IN CO-OPERATION

The research outlook is favourable in North America, where co-operative work is already soundly established. Teams of research personnel, which include economists and natural scien-

tists, are already operating at many research institutes. Interdisciplinary co-operation of this nature has come about through the growing realisation that farmers must make decisions in an economic context of limited resources, as regards both individual producers and the industry as a whole.

The improvement of pastures, for instance, can hardly be undertaken without involving wider issues concerning the use of resources. A decision must be taken for example between the competing demands for scarce resources of the various production processes.

Because they have realised the interdependent nature of the various production activities on the farm, plant and animal scientists have sought the aid and co-operation of agricultural economists — just as the economists, discarding the old descriptive methods and turning more to modern analytical methods, have increasingly sought the co-operation of natural scientists.

In short, the growing maturity of farming has forced the move towards interdisciplinary co-operation in research; the maturity of agricultural sciences has favoured it.

But co-operative research is seldom encouraged unless scientists from different fields understand the concepts and methods of others. A first step in this understanding is brought about through the recognition by all scientists of the farm as the decision-making unit, and of the more general problem of competing practices and investment alternatives.

### THE SITUATION IN EUROPE

Stuart T. Wragg, of Bristol University, has confirmed the results of an earlier investigation carried out on the situation in Europe; that there is little if any active co-operation between agricultural scientists and economists in research involving input/output relationships. There are rarely any formal channels for communication and consultation. Such exchanges of ideas and experience as do take place invariably arise as a result of action taken by individuals and thus operate largely on a very personal basis. The situation differs according to regions. In Southern Europe, many of the organisations concerned with agricultural economics are of comparatively recent origin. As a consequence, a high proportion of the graduate staff working in such organisations is particularly well qualified in the most modern concepts of production theory, econometrics and statistics. But as these institutions are of recent origin, input/output data of any kind are very scarce indeed.

On the other hand, and somewhat in contrast to the situation in Northern Europe, the interest shown in production economics by agricultural scientists is sometimes both keen and active. This is important, for the modernisation of agricultural production in Southern Europe goes hand in hand with studies in resource use planning which, to be successful, must involve an integrated effort on the part of both scientists and economists.

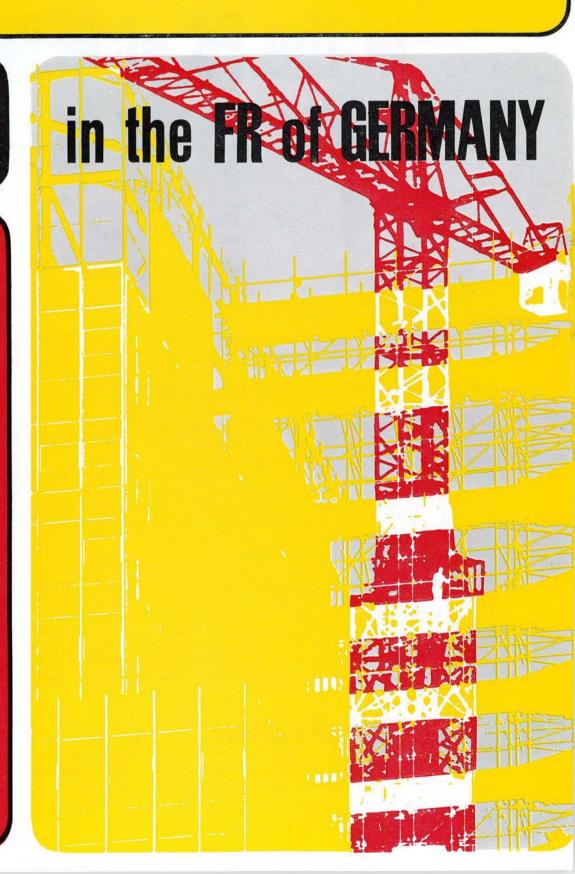
# HOUSING CONSTRUCTION POLICIES AND TECHNIQUES

by
Franz MENGE,

Federal Ministry for Housing, Town Planning and Regional Development

problem which has preoccupied the governments of virtually all OECD countries bas been the provision of sufficientliving accommodation; and three - the Federal Republic of Germany, Sweden and Switzerland-succeeded constructing ten new housing units per thousand inhabitants, the highest rate among the Member countries. The OECD Observer has therefore invited their respective Delegations to OECD to arrange for the preparation, by national authors, of articles describing their Governments' building policies and techniques.

The third of these articles, appearing in this issue, has been contributed through the good offices of the German Delegation to OECD. Articles relating to Switzerland and Sweden have appeared in the October and December issues respectively.



### HOUSING CONSTRUCTION

### POLICIES AND TECHNIQUES

### in the FR of GERMANY

### The situation of the housing market

At the peak of the housing shortage in 1948-1949 the Federal Republic of Germany was in need of at least 5 million dwellings. Housing construction was consequently the priority task to be tackled by the Federal Government in co-operation with the Länder governments. On the Federal level the situation led to the formation of a special Ministry for Housing. More than 8.3 million dwellings have since been constructed in the Federal Republic including West Berlin.

### **OVERCOMING THE HOUSING SHORTAGE**

In the year of the foundation of the Federal Republic of Germany (1949), the housing shortage had reached such a peak that a political dispute concerning the necessity of state intervention in the field of housing was completely out of the question. Thus, the first Housing Law, which remained the basis of the housing policy and of state promotion of housing construction until 1956, was passed unanimously by the Bundestag (Lower House of the Federal Parliament). This law made it an obligation for the Federal Republic of Germany, the Länder and local authorities, to promote housing as the most urgent task, with the aim of building within 6 years 1.8 million dwellings for the lower income brackets of the population. The second Housing Law, which covered the period after 1956, provided for the construction of another 1.8 million dwellings for the lower income groups in the years 1957 to 1962.

#### OWNERSHIP OF PROPERTY

In the first years after the Monetary Reform it became clear that large parts of the population were

striving for privately-owned homes, despite the immense efforts required in pursuing such a project. So much was achieved in this respect by low-income families that the housing problem was overcome more quickly than could have been expected. The Federal Government, even in the early stages, attached special importance to the construction of family homes. In the second Housing Law, for example, the aim to encourage large numbers of the population to acquire ownership of individual property was clearly expressed; this objective was parallel to that of remedying the housing shortage.

### ABOLITION OF GOVERNMENT CONTROL

As in most other European countries, the surviving pre-war dwellings in the Federal Republic of Germany were in danger of being further reduced in standards by many decades of housing control, especially the rent freeze. But after it became clear that the quantitative shortage in the supply of dwellings would to a large degree be overcome in the years to come, the Federal Government drafted a bill on the abolition of government control in the field of housing as well as a bill on social rent and housing rights. Naturally this law met with strong opposition, for it affected the interests of large circles of the population; it was primarily due to manifold guarantees against social hardship that the bill was approved by Parliament.

#### RECONSTRUCTION

The greater the progress achieved in abolishing the quantitative shortage, the more the task of reshaping and reconstructing towns and villages in a way that

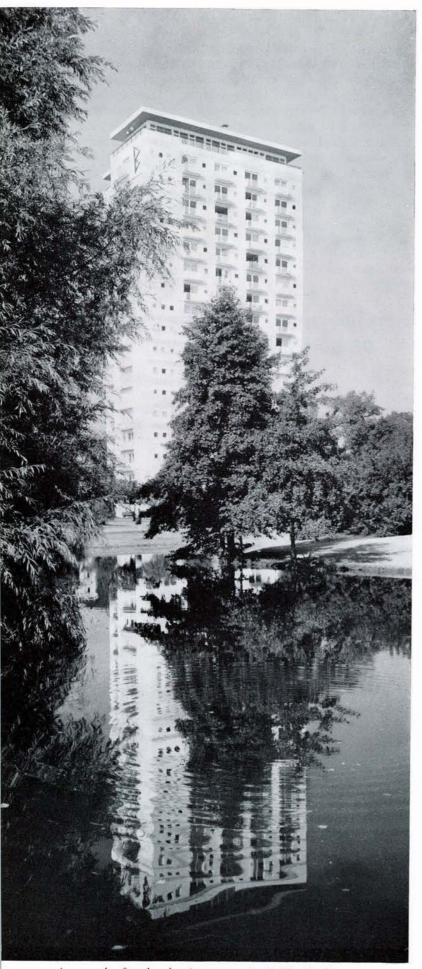
### Number of dwellings completed (Federal territory including West Berlin) Thousand dwellings 623.1 600 574.4 569. 565.8 500 total house-building 400 T I 300 17 publicly-assisted 200 social housing. programme 1964 1960 1961 1962 1963 1961 1962 1963 1960 1964 per 1000 inhabitants 10.4 10.1 10.1 9.9 10.7

met modern requirements and guaranteed the population healthy housing and living conditions gained momentum. The rapid development of technology in the past 100 years was in many cases accompanied by a hasty and very often ill-conceived extension of the housing areas. In the provinces — arising from fundamental changes in the agricultural structure accompanied by other factors — a large-scale economic and sociological transformation process is under way. The structural layout of the villages is lagging behind this development. This means that in this field — both in the country and in the cities - considerable tasks remain to be fulfilled. The renovation of the cities and villages is, however, not affected by time pressure as was the case in remedying the housing shortage. This is of particular importance from the viewpoint of avoiding a cyclical overpressure in the house-building industry.

### INSTRUMENTS FOR THE PROMOTION OF HOUSING CONSTRUCTION

National promotion of housing construction is echeloned according to the type and purpose of the construction project. Some direct state subsidies, as for example premiums and tax allowances for people saving with Building and Loan Associations, as well as the possibilities of a fiscal depreciation of construction costs are granted regardless of the income of the owner. Direct assistance is, however, mostly reserved for publicly promoted social housing construction, and only granted to home-seekers whose income falls short of a level fixed by the Law on Housing Construction. With the improvement in the general economic situation and the raising of income levels, the proportion of housing construction supported solely through indirect aid could be increased considerably; the share of publicly promoted social housing construction, however, went down from 57.3 per cent in 1953 to 40 per cent in 1964.

This development was only possible because the Federal Republic of Germany possessed several groups of efficient credit institutes which traditionally had always been concerned with the financing of housing. There are, first, as special credit institutions lending money on first mortgage, the so-called land and communal credit institutions which secure their credit means through the sale of bonds (offering mortgage loans at 6.5 per cent to 7 per cent interest and 1 per cent amortisation). The second important factor in the capital market financing of housing is the savings banks, which also to a large extent grant first mortgages (at a rate of interest of 6 to 6.5 per cent and 1 to 2 per cent amortisation). Second-ranking housing credits are granted by the Building and Loan Associations, whose operations are discussed in detail in the section on state assistance for savings with the Building and Loan Associations. The overall importance of financing through the above-mentioned institutions is evident from the fact that in 1964 they covered about 60 per



An example of modern housing construction in West Berlin.

cent of the financing required for overall housing construction. In the field of housing construction not supported by public means the share of money market financing is even greater.

### AID AND TAX INCENTIVES IN THE PROVISION OF HOUSING

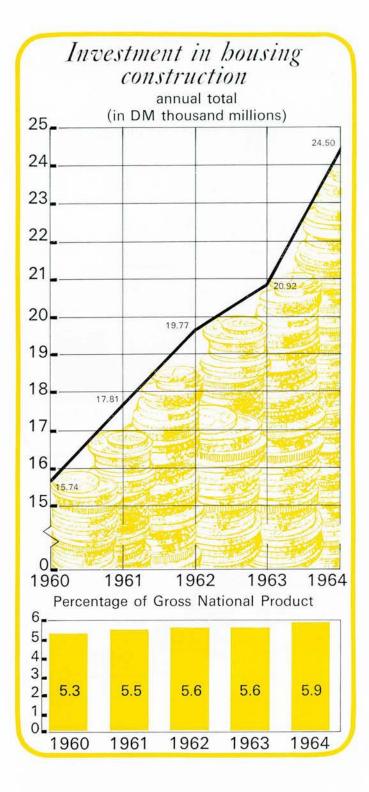
In 1964, an average public construction loan (noninterest bearing and with an annual amortisation rate of 1 per cent) amounting to 17,000 German marks was granted for each dwelling as well as subsidies for coverage of continuing expenses amounting to 410 German marks for a duration of five years. With an average total expenditure of 52,000 German marks, public construction loans cover about a third of the financial requirements. The remaining financing is effected through the capital market, bearing normal rates of interest (first mortgages) and by the private means of the owner. In this case these private means are very often supplemented by loans granted by the employer or by means of special funds, as for example from the Equalisation of Burdens Fund set up for the economic integration of expellees and those who incurred losses through enemy action.

The fact that public building loans bear no interest and that subsidies are granted to cover continuing expenditure led to a lowering of the cost covering rent and/or, in the case of privately owned homes, to a corresponding lowering of the financial burden. In cases where the rent or mortgage can still not be paid by the owner he receives a rent allowance or mortgage subsidies from public funds.

In allocating public funds, priority is given to the construction of family-sized homes rather than, for example, rented flats. Owners of family homes with a large family receive in addition to the construction loan a "family" loan which is calculated according to the number of children and is interest-free.

### SAVING WITH THE BUILDING AND LOAN ASSOCIATIONS

In the field of privately-owned home construction especially, it is indispensable to accumulate a certain sum of private capital before starting a construction project. This process of capital accumulation is promoted by the State by means of bonuses for people saving with the Building and Loan Associations or, as an alternative, by means of income tax allowances. These aids are mostly granted to savers who have concluded a building contract with a Building and Loan Association. By means of these building contracts the savers undertake to provide part of the contract sum (at least 40 per cent) by regular payments. On the other hand savers gain through their payments the right to a second priority mortgage amounting to the remainder of the contract sum. (These mortgages



bear an interest of 4.5 per cent to 5 per cent and must be amortised in the course of 10 to 12 years.)

According to family status and size, premiums for housing construction amount to 25 per cent and 35 per cent of savings, with a maximum, however, of 400 German marks per annum. The degree of tax allowances which can be made use of instead of the building premium depends upon the income and the size of the family.

How popular saving with Building and Loan Associations has become, owing to the incentives provided, is shown by a total of 5.17 million contracts and by a

contract sum of nearly 100,000 million German marks.

This development, however, results in a corresponding financial burden on the national budget. Building savings made in 1964 are thus, for example, responsible for expenses for housing premiums totalling 800 million German marks and for tax losses totalling approximately 700 million German marks.

This price, however, is accepted because saving with Building and Loan Associations has been shown to be one of the most successful means of achieving the aims of property policy; by far the majority of savers are saving for their own houses or flats.

### TAX INCENTIVES FOR PRIVATE INVESTORS

In order to make construction more attractive for the private owner, depreciation arrangements for dwelling houses had already been improved by the income tax law in 1949. This improvement permitted the owner a depreciation allowance amounting to 10 per cent yearly during the first two years after completion of the construction project, and over the following ten years 3 per cent each year of the building costs, thus reducing his own tax liabilities. These tax incentives have proved to be of particular value for home building. They were suspended in 1962 owing to the boom in the construction market, which entailed a steep increase in construction prices. In 1964 the depreciation of buildings was re-assessed. In the case of one- and two-family homes and privately owned dwellings it was stipulated that during the first eight years after completion of the building project, five per cent of the construction cost can be set against depreciation each year up to a fixed maximum level. In the case of other buildings a decreasing depreciation allowance can be granted instead of the usual linear allowance, which is based on a 50 years' life span: during the first twelve years 3.5 per cent of the building costs per year, over the following twenty years 2 per cent per year and over the following eighteen years 1 per cent per year.

### TAX ALLOWANCES FOR THE REDUCTION OF NON-RECURRENT AND CURRENT COSTS

In the case of housing projects falling within certain limits of housing space, the Acquisition of Land tax, amounting to 7 per cent of the price of the land, is not levied. In addition, a land tax allowance is granted which means that the land tax will be calculated for ten years only on vacant land. This entails a reduction of the mortgage of about 10 per cent.

### NON-PROFIT MAKING HOUSING UNDERTAKINGS

Among means of housing promotion figure also the non-profit making housing undertakings which cover about one-third of housing production in the Federal Republic. As compensation for the obligations they assume, these undertakings enjoy complete tax freedom. They have the task of providing those of the population who are not in a position to furnish dwellings by their own means with equivalent housing. These undertakings are non-profit making. The existing 2,200 non-profit making housing undertakings are, in as far as they are joint stock companies, financed by the State, the trade unions, industrial enterprises, the churches, the Federal Railways, the Federal Post Office and others. Non-profit making housing undertakings on a co-operative basis provide dwellings for their members.

#### WHAT HAS BEEN ACHIEVED

As already mentioned, 8.3 million dwellings have been constructed since the foundation of the Federal Republic of Germany. These 8.3 million dwellings amount to approximately 45 per cent of the total number of dwellings available at the end of 1964. Since 1953 more than 500,000 dwellings have been completed each year. The number of dwelling completed during the past five years are shown in a table on page 15.

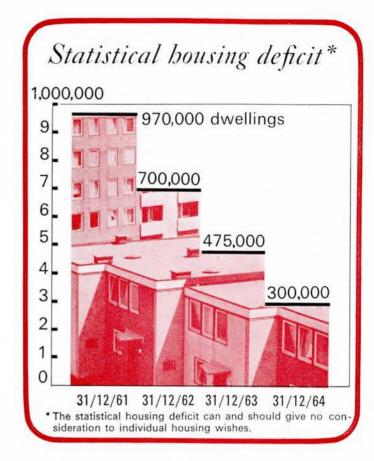
Construction investments in these years ranged from 5.6 to 5.9 per cent of the GNP.

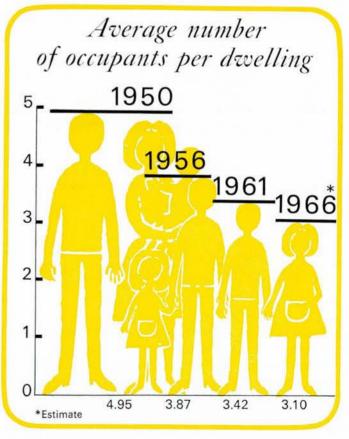
### LARGER AND BETTER EQUIPPED DWELLINGS

Following the general economic recovery, dwellings became larger in size and better equipped every year. Dwellings completed in 1964, for example, were of an average size of 78 m², whereas dwellings constructed in 1952 were only about 55 m². The proportion of dwellings with bathrooms increased from 75 per cent in 1952 to 97 per cent in 1964. This means that the owners of older dwellings were obliged to improve the standard of their apartments at least in places where the housing market had reached a certain equilibrium. This economic pressure for modernisation has, however, to be compensated for by a certain freedom with regard to the rent development.

### PROGRESSIVE ELIMINATION OF THE HOUSING SHORTAGE

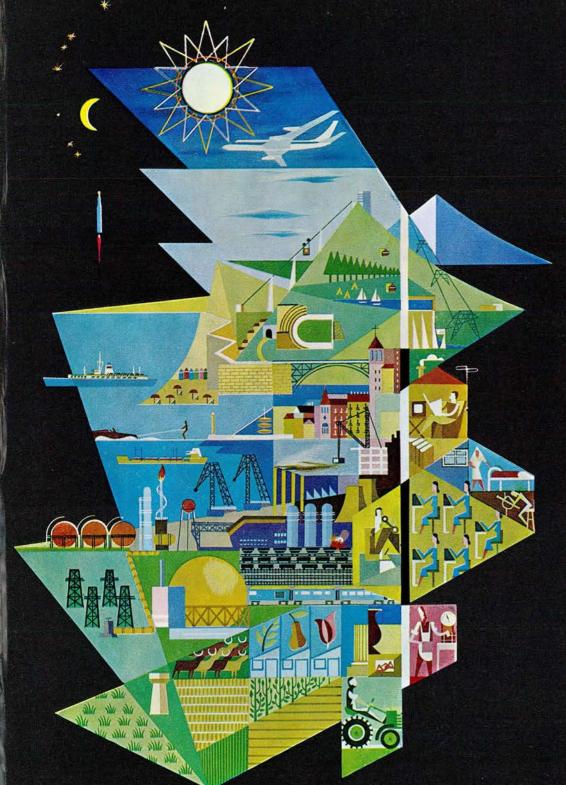
The fact that in early 1965 an average number of 3.1 persons inhabited each dwelling, whereas prior to the second World War the number was 3.7, clearly demonstrates the progress made in the field of quantitative housing provision. In spite of this low number of 3.1 there is still a quantitative shortage in housing supply. This is mainly the result of a shrinking of the average household which can be noticed in all comparable industrial countries. Young couples try very early to leave the family home; an increasing number of





Continued on page 27

### THE OECD MEMBER COUNTRIES



The OECD OBSERVER is publishing in this issue a set of tables giving a general idea of the diversity of the economies of the twenty-one Member countries of the Organisation. These were drawn up at the end of 1965 on the basis of a complete set of 1964 statistics. The tables do not claim to provide all the comparative data needed for an understanding of the economic situation in each country in relation to the OECD group as a whole; they give some idea, however, of the economic pattern in each of these countries.

The figures have been supplied by the Statistics and National Accounts Branch of OECD. For further information, readers are referred to other statistical publications of the Organisation: Main Economic Indicators, Statistical Bulletins of Foreign Trade, Manpower Statistics, and Statistics of National Accounts.



SYMBOLS EMPLOYED: -

- ( ) OECD Secretariat Estimate;
- Nil;
- .. Not available.

Unless otherwise stated, all the figures are for 1964.

					5.75 T 20-25 T 0
	AREA (1,000 sq. km)	AGRICUL- TURAL AREA (1,000 sq. km) 1963	TILLAGE and temporary grassland (1,000 sq. km) 1963	POPULATION (thousands)	INHAB- ITANTS per sq. kr
AUSTRIA	83.8	39.9	17.2	7,215	86
BELGIUM	30.5	16.8	9.5	9,378	307
CANADA	9,976.2	628.5	418.5	19,271	2
DENMARK	43.0	30.7	27.4	4,716	110
FRANCE	551.2	345.6	214.5	48,416	88
GERMANY (FR)	248.9	141.5	84.3	58,267	234
GREECE	130.9	89.1	37.0	8,512	65
CELAND	103.0	23.5	_	189	2
RELAND	70.3	46.2	13.3	2,849	41
TALY	301.2	206.2	156.0	50,948	169
JAPAN	369.7	66.9	60.6	96,950	262
.UXEMBOURG	2.6	1.4	0.7	328	126
NETHERLANDS	33.6	22.9	9.9	12,127	361
IORWAY	323.9	10.3	8.6	3,694	11
ORTUGAL	91.5	(49.0)	(43.7)	9,107	100
PAIN	504.7	416.5	209.0	31,339	62
WEDEN	449.8	42.8	36.0	7,662	17
WITZERLAND	41.3	21.6	4.3	5,874	142
URKEY	780.6	540.5	255.0	31,118	40
NITED KINGDOM	244.0	197.1	73.7	54,213	222
NITED STATES	9,363.4	4,416.0	1,854.0	192,119	21

NATURAL INCREASE IN	NET IMMIG- RATION (+) OR NET	TOTAL EMPLOYMENT		of which :	
POPULATION rcentage (annual erage 1954-1964)	thousands (annual average 1960-1964)	(civilian occupied manpower) (thousands)	AGRICULTURE (%)	INDUSTRY (%)	OTHER (%)
+ 0.4	<b>— 4</b>	3,331	21.0	40.7	38.3
+ 0.6	+ 25	3,566	6.1	46.9	47.0
+ 2.3	+ 20	6,609	11.2	33.5	55.5
+ 0.7	101 - mir	2,253	17.6	40.9	41.5
+ 1.2	+ 327	19,251	19.0	40.7	40.3
+ 1.2	+ 313	26,523	11.6	49.7	38.7
+ 0.7	<b>— 42</b>	3,490	57.0	21.5	21.5
+ 2.1	-	77	20.8	40.2	39.0
<b>— 0.3</b>	<u> </u>	1,051	33.5	27.5	39.0
+ 0.6	<b>— 129</b>	19,389	25.6	41.2	33.2
+ 1.0	<b>— 19</b>	46,730	26.8	31.9	41.3
+ 0.8	+ 2	138	14.0	45.5	40.5
+ 1.3	+ 3	4,310	9.8	44.1	46.1
+ 0.9	-1	1,467	20.6	35.2	44.2
+ 0.6	<b>— 50</b>	3,319	42.1	31.1	26.8
+ 0.8	<b>— 135</b>	12,000	37.9	34.0	28.1
+ 0.6	+ 14	3,719	12.6	41.5	45.9
+ 1.8	+ 74	2,651	9.4	51.6	39.0
+ 2.8	• •	13,144	76.9	11.5	11.6
+ 0.6	+ 77	25,007	3.8	47.5	48.7
+ 1.6	+ 364	70,357	6.8	32.7	60.5

at b) in c) N d) Ei in BLEU: Belg Luxe	ross Domestic Product market prices cludes stock appreciation et Domestic Product lectricity, gas and water cluded in "other activities" ium mbourg lomic Union	AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
NATIONAL DUCT rket prices	at current prices and exchange rates (million US 8)	8,510	15,440	43,540	8,910	88,120	103,980	(1963) <b>4,420</b>	400	(1963 <b>2,28</b> 0
NAT ODU( arket	at 1958 prices and exchange rates (million US §)	6,880	13,760	43,780	7,000	79,540	82,420	(1963) <b>4,060</b>	520	(196. <b>2,0</b> 4€
GROSS PRO at ma	per capita at current prices and exchange rates (US S)	1,180	1,650	2,260	1,890	1,820	1,780	(1963) <b>520</b>	2,110	(1963) <b>80</b> 0
OF GROSS PRODUCT ent prices	agriculture	10.4	6.6	6.5	12.6	(a) 7.8	4.8	(1963) <b>28.9</b>		(1963) ( <b>22</b> .0
STIC PRC	mining and quarrying, manufacturing industry, construction, electricity, gas and water	51.6	42.7	39.0	40.5	47.8	53.1	(1963) <b>26.8</b>		(1963) ( 33.0
STRUCTURE DOMESTIC (%) at curr	other activities	38.0	50.7	54.5	46.9	44.4	42.1	<sup>(1963)</sup> 44.3		(1963) ( 45.5
FIXED ET ATION	percentage of GNP at current prices	24.4	20.1	23.0	21.6	20.9	26.4	(1963) <b>19.1</b>	28.2	(1963) <b>17</b> .9
GROSS FIX ASSET FORMATIO	US § per capita at current prices and exchange rates	290	330	520	410	380	470	(1963) <b>100</b>	590	(1963) <b>140</b>
ATE APTION ISES	percentage of GNP at current prices	60.8	66.7	62.7	63.9	64.1	56.2	(1963) <b>71</b> .0	64.5	(1963) <b>73</b>
PRIVATE CONSUMPTION EXPENSES	US 8 per capita at current prices and exchange rates	720	1,100	1,420	1,210	1,170	1,000	<sup>(1963)</sup> <b>370</b>	1,350	(1963) <b>59</b> 0
IENT UMENT UTURE VENUE GNP)	current expenditure	29.0	28.7	27.4	24.4	33.8	29.7	(1962) <b>20.7</b>	17.0	(1963) <b>24</b> .9
CURRENT GOVERNMENT EXPENDITURE AND REVENUE (% of GNP)	current revenue	35.6	30.0	30.5	30.0	38.4	37.1	(1962) <b>23.6</b>	23.3	(1963) <b>25.</b> 8
of gold an	CIAL HOLDINGS ad foreign exchange er 1965 (million US S)	1,285	<b>2,010</b> (BLEU)	2,652	444	5,381	6,335	241	48	379
15th	DISCOUNT RATE December 1965 ate of last change)	4.50 June 1963	4.75 July 1964	4.75 December 1965	6,50 June 1964	3.50 April 1965	4.00 August 1965	5.50 January 1963	8.00 January 1965	5.08 Octobe 1965

IIV	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	TURKEY	UNITED KINGDOM	UNITED STATES
ITALY	JA.	3	NE	ON	PO	SP	S	SV	2	5	5
3,580	69,080		16,860	6,250	(1963) <b>2,970</b>	17,720	17,470	12,870	7,420	91,900	638,820
[81 39,200	57,250	.,,	13,050	5,400	(1963) <b>2,810</b>	<b>.</b>	14,390	10,330	7,510	81,260	586,500
970	710	·	1,390	1,690	(1963) <b>330</b>	570	2,280	2,190	240	1,700	3,330
14.4	12.7 <sup>(c)</sup>		9.3	8.9	(1963) <b>22</b> .8	20.8		• •	39.0 <sup>(c)</sup>	3.6	(1963) (a) 4.0
44.1	(c) (d) 39.3		40.9	38.1	(1963) 42.8	36.2			23.5 <sup>(c)</sup>	48.3	(1963) (a) <b>36.9</b>
41.5	(c) (d) 48.0	. W	49.8	53.0	(1963) <b>34.4</b>	43.0			37.5 <sup>(c)</sup>	50.1	(1963) (a) <b>59.1</b>
21.1	33.6	.01	25.1	28.7	(1963) <b>17.6</b>	22.8	23.4	29.5	• •	17.6	16.8
210	240	4.1.4	350	490	(1963) <b>60</b>	130	530	650		300	560
् ढ1.1	52.1		57.6	56.7	(1963) <b>75.1</b>	69.8	57.1	58.5		64.7	62.7
5 <b>90</b>	370		800	960	(1963) <b>250</b>	390	1,300	1,280		1,100	2,090
29.6	14.8		31.3	30.9	(1963) <b>19.4</b>	••	31.1		••	29.7	25.7
33.1	22.2		35.5	37.0	(1963) <b>20.7</b>		41.0			31.4	27.0
3,557	1,788		2,088	385	955	1,336	879	2,871	141	2,873	14,795
2.50 July 958	5.48 December 1965	4.75 July 1964	4.50 June 1964	3.50 November 1955	2.50 Septembe 1965	5.00 r June 1961	5.50 April 1965	2.50 July 1964	7.50 July 1961	6.00 June 1965	4.50 December 1965

LEU : Belgium Luxembourg Economic Union	AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
monetary unit	Schilling	Belgian Franc	Canadian Dollar	Krone	French Franc	Deutsche Mark	Drachma	Krona	Pound
currency units per US § 15th_November 1965	26.000	50.000	1.081	6.907	4.937	4.000	30.000	43.000	0.357
total (CIF) (million US \$)	1,863	<b>5,932</b> (BLEU)	<b>6,944</b> (FOB)	2,596	10,070	14,546	885	131	971
from other OECD countries (million US §)	1,501	<b>4,643</b> (BLEU)	6,009 (FOB)	2,214	6,408	10,512	691	104	<b>79</b> 9
from rest of world (million US \$) (excl. unspecified)	362	<b>1,285</b> (BLEU)	<b>936</b> (FOB)	382	3,663	4,080	193	27	147
total imports as percentage of GNP at current prices	21.9	38.4 (BLEU)	15.9	29.1	11.4	14.0	20.0	32.8	42.6
increase in volume of total imports from 1960 to 1964 (percentage per year)	4.9	8.0 (BLEU)	3.9	7.4	9.8	7.8	10.2	• •	8.3
total (FOB) (million US §)	1,444	5,609 (BLEU)	7,699	2,075	8,995	16,213	309	111	621
to other OECD countries (million US \$)	1,058	4,865 (BLEU)	6,273	1,770	5,979	12,518	207	85	562
to rest of world (million US §) (excl. unspecified)	387	<b>707</b> (BLEU)	1,426	305	2,983	3,640	101	26	26
total exports as percentage of GNP at current prices	17.0	<b>36.3</b> (BLEU)	17.7	23.3	10.2	15.6	7.0	27.8	27.2
increase in volume of total exports from 1960 to 1964 (percentage per year)	3.7	8.3 (BLEU)	7.7	6.0	5.6	6.0	5.6	<b>*</b> *	6.2
number of nights (thousands)	40,529	5,858			94,665	12,821	5,102	411	18,525
percentage of increase over 1963	+ 6.7	+ 12.1			+ 7.3	+ 5.0	<b>— 16.8</b>		+ 11.
	currency units per US \$ 15th_November 1965  total (CIF) (million US \$)  from other OECD countries (million US \$)  from rest of world (million US \$)  (excl. unspecified)  total imports as percentage of GNP at current prices  increase in volume of total imports from 1960 to 1964 (percentage per year)  total (FOB) (million US \$)  to rest of world (million US \$)	currency units per US \$ 15th_November 1965  countries (million US \$)  from other OECD countries (million US \$)  from rest of world (million US \$)  cexcl. unspecified)  total imports as percentage of GNP at current prices  increase in volume of total imports from 1960 to 1964 (percentage per year)  total (FOB) (million US \$)  to other OECD countries (million US \$)  to rest of world (million US \$)  to rest of world (million US \$)  to rest of world (million US \$)  as percentage of GNP at current prices  1,058  to rest of world (million US \$) (excl. unspecified)  17.0  at current prices  increase in volume of total exports as percentage of GNP at current prices  increase in volume of total exports from 1960 to 1964 (percentage per year)  number of nights (thousands)  40,529	monetary unit  Currency units per US \$ 15th_November 1965  Countries (million US \$)  from other OECD countries (million US \$)  increase in volume of total imports from 1960 to 1964 (million US \$)  total (FOB) (million US \$)  total (FOB) (million US \$)  total (FOB) (million US \$)  total imports from 1960 (BLEU)  to other OECD countries (million US \$)  total (FOB) (million US \$)  to other OECD countries (million US \$)  to other OECD countries (million US \$)  to rest of world (million US \$)  to other OECD countries (million US \$)  to other OECD countries (million US \$)  to rest of world (million US \$)  to rest of world (million US \$)  to rest of world (million US \$)  (excl. unspecified)  17.0 36.3 (BLEU)  increase in volume of total exports from 1960 to 1964 (percentage per year)  17.0 36.3 (BLEU)  17.0 36.3 (BLEU)  17.0 36.3 (BLEU)  17.0 36.3 (BLEU)	Monetary unit   Schilling   Belgian   Canadian   Franc   Canadian   Pranc   Canadian   Pranc   Canadian   Pranc   Canadian   Canad	March   Schilling   Belgian   Canadian   Krone	Monetary unit   Schilling   Belgian   Canadian   Krone   French   Franc	Courrency units	Schilling   Belgian   Canadian   Krone   French   Deutsche   Drachma   Franc   Canadian   Canadia	Schilling   Belgian   Canadian   Krone   French   Deutsche   Drachma   Krona   Mark   Drachma   Krona   Deutsche   Drachma   Mark   Drachma   Krona   Deutsche   Drachma   Mark   Drachma   Krona   Deutsche   Drachma   Drachma   Krona   Deutsche   Drachma   Dra

ІТАLУ	JAPAN	LUXEMBOURG	NETHERLANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZERLAND	ТИВКЕУ	UNITED KINGDOM	UNITED STATES
Lira	Yen	Luxem- bourger Franc	<b>Z</b> Guilder	Krone	Escudo	Peseta	Krona	Swiss Franc	Lira	Pound	Dollar
25.000	360.000	50.000	3.620	7.143	28.750	60.000	5.173	4.319	9.000	0.357	1.000
7,240	7,938	<b>5,932</b> (BLEU)	7,055	1,983	761	2,259	3,850	3,598	542	15,438	18,600 (FOB)
4,655	3,528	<b>4,643</b> (BLEU)	5,574	1,693	536	1,642	3,119	3,205	412	8,368	11,047 (FOB)
2,572	4,410	<b>1,285</b> (BLEU)	1,480	290	225	617	731	393	129	7,070	<b>7,541</b> (FOB)
14.6	11.5	38.4 (BLEU)	41.8	31.7	25.6	12.7	22.0	28.0	7.3	16.8	2.9
7.8	11.8	8.0 (BLEU)	7.6	6.4		32.0	5.9	8.9		3.2	4.4
5,962	6,673	5,609 (BLEU)	5,808	1,291	515	954	3,669	2,654	411	12,341	26,086
4,212	2,878	<b>4,865</b> (BLEU)	4,808	1,067	324	745	2,886	2,009	324	6,762	14,168
1,638	3,794	<b>707</b> (BLEU)	921	224	190	200	783	645	87	5,579	9,888
12.0	9.7	36.3 (BLEU)	34.4	20.7	17.3	5.4	21.0	20.6	5.5	13.4	4.1
10.0	15.4	8.3 (BLEU)	5.7	7.6		4.4	7.6	5.0		2.7	5.0
35,176	2,584	830	4,463	1,752	2,254	Arrivals at frontiers 10,507		18,203	Arrivals at frontiers	81,100	Arrivals at frontiers 6,886
<b>– 2.9</b>	+ 6.1	+ 10.6	+ 9.0	+ 8.5	+ 23.2	+ 32.3		+ 5.2	+ 8.5	+ 8.9	+ 13.6

	CARS		AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
1,0	(number po 00 inhabita		97	123	262	142	175	148	9	134	90
ITALY	JAPAN	LUXEM- BOURG	NETHER- LANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZER- LAND	TURKEY	UNITED KINGDOM	UNITED STATES
91	13	169	88	108	25	21	216	131	3	156	372
	ELEPHON		AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
	00 inhabita 1963		122	146	348	263	112	132	42	256	65
ITALY	JAPAN	LUXEM- BOURG	NETHER- LANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZER- LAND	TURKEY	UNITED KINGDOM	UNITED STATES
98	87	208	168	227	54	112	403	346	9	174	440
	EVISION		AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
	(number pe 00 inhabita		77	145	255	210	111	171	_	_	78
ITALY	JAPAN	LUXEM- BOURG	NETHER- LANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZER- LAND	TURKEY	UNITED KINGDOM	UNITED STATES
100	180	65	82	108	16	35	255	78	_	242	325
	USING U		AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
	(number p <mark>e</mark> 00 inhabita		5.9	(6.0)	7.8	8.2	7.6	10.7	(7.0)	(7.0)	3.2
ITALY	JAPAN	LUXEM- BOURG	NETHER- LANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZER- LAND	TURKEY	UNITED KINGDOM	UNITED STATES
8.8	• •		8.4	7.7	4.7	8.2	11.4	9.7	(2.0)	7.2	
	CONSUM		AUSTRIA	BELGIUM	CANADA	DENMARK	FRANCE	GERMANY (FR)	GREECE	ICELAND	IRELAND
kWh per	head and cluding los	per year	2,060	1,920	6,280	1,520	1,830	2,440	380	2,980	940
ITALY	JAPAN	LUXEM- BOURG	NETHER- LANDS	NORWAY	PORTUGAL	SPAIN	SWEDEN	SWITZER- LAND	TURKEY	UNITED KINGDOM	UNITED STATES
1,290	1,630	5,250	1,680	10,490	450	720	5,140	3,250	120	2,900	5,180

### HOUSING CONSTRUCTION POLICIES AND TECHNIQUES IN THE FR OF GERMANY

Continued from page 18

single people also seek for dwellings of their own or keep up the household after the death of a family partner. These factors will also affect, at least for some time, the future development of housing requirements

The point reached with regard to quantitative housing supply can be read very clearly from the statistical housing deficit. This deficit is determined each year by comparison of the housing required and dwellings available in individual town and country districts. It is based on the assumption that *all* households comprising more than one person, as well as 60 per cent in the big cities and a further 50 per cent of the one-person households, desire dwellings of their own. At the end of 1964 there was, according to this deficit calculation, a quantitative shortage in housing supply in only 55 of 565 districts.

#### **ELIMINATION OF HOUSING CONTROL**

For more than four decades measures of government control such as housing accommodation control, rent restriction and protection of tenants have played an important part in German housing policy. With regard to income and price development in the past decade, real estate owners considered these restrictions as partial expropriations. At the same time tenants of older dwellings got accustomed to frozen rents which, by comparison with their increasing incomes, were lagging behind, and they lost a realistic approach to dwelling costs. The tenants of freely financed new dwellings, however, were well aware of this situation. Taking into account the continuously improving housing situation, the Federal Government started in 1960 with the abolition of government control in housing supply and gradually led tenants as well as owners towards a freer housing market. Thorough publicity work was required in order to win the necessary understanding for the abolition of government control in housing. In the meantime, government control has been abandoned for older dwellings in 462 of 566 districts without having caused any major friction. 1st July, 1965, approximately another fifty districts were added to this number, districts in which, in late 1964, the statistical housing deficit dropped below 3 per cent — the level required for rent derestriction. The overall process of rent derestriction of older dwellings will be completed by the end of 1967.

Despite this large measure of rent derestriction, the average rent increase has, compared with private consumption and due to the fact that incomes were steadily rising, not greatly exceeded 10 per cent. The rents of dwellings constructed under the Social Housing Programme have remained fixed.

Hardship caused to low-income tenants as a result of rent increases is compensated for by means of rent subsidies. An extensive housing allowance system has been developed which applies not only to cases of rent increase due to the derestricting of old dwellings but is also, in principle, to guarantee everyone appropriate housing space, as, for example, owners of one-family houses who through no fault of their own are no longer in a position to carry the full financial burden of their privately-owned house. Guarantees against abuse were incorporated in this housing allowance system.

### HIGH PROPORTION OF PRIVATELY-OWNED HOMES

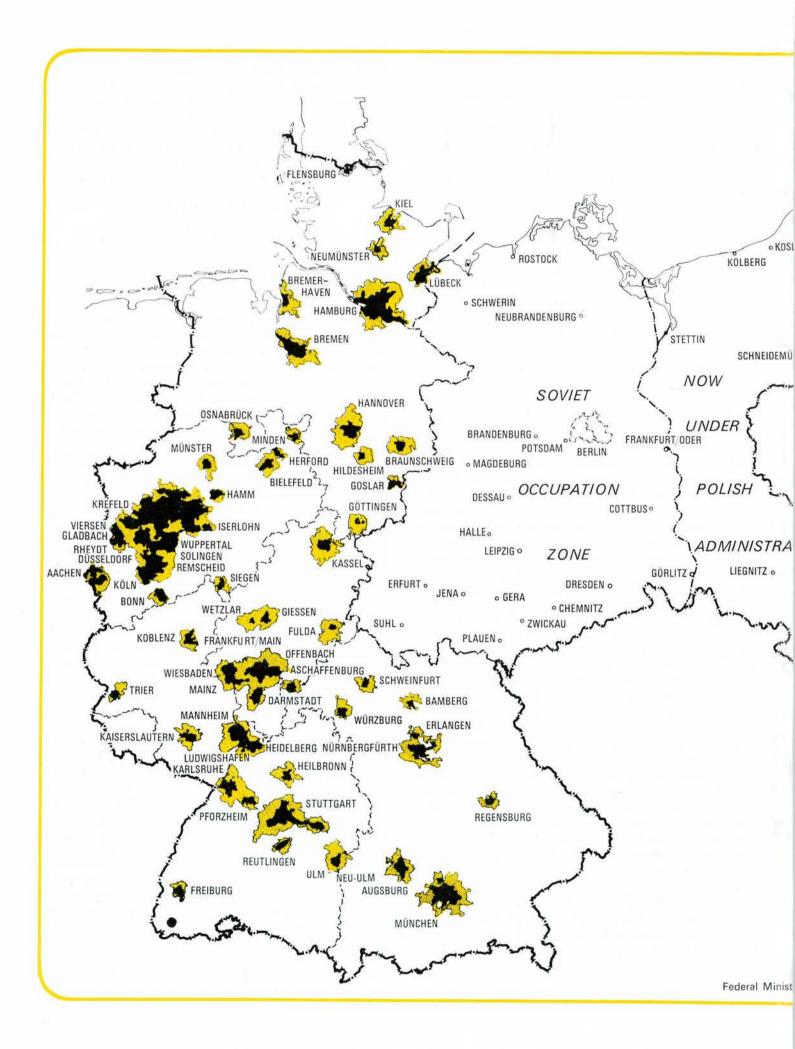
Of the 8.3 million new dwellings constructed, about 2.5 million are privately owned in one- and two-family houses and privately-owned flats in multi-family constructions. The majority live in one- and two-family houses. The number of privately-owned houses (proportion of the privately-owned dwellings in one- and two-family houses as compared with the total of newly constructed dwellings) increased from 25.2 per cent to about 36 per cent in the years following 1953. Taking into consideration the difficulties which often arise in procuring suitable and cheap land for the construction of privately-owned houses, this can be considered a remarkable success.

In the Federal Republic a relatively large proportion of privately-owned houses are constructed on the basis of individual construction projects; which means that the future occupier is the builder. Construction based on self-help plays a very important part, especially in the country. The one-family pre-fabricated house has not yet made headway, the main reason being that pre-fabricated houses do not yet offer considerable price advantages and that potential clients do not find it easy to make a selection among the manifold types offered.

Nearly everywhere on the outskirts of towns one will find so-called "ready-made privately-owned houses" constructed under the control of non-profit making or free housing undertakings or on the initiative of architects and brokers. The amount of private capital which is required for the acquisition of such prefabricated houses for sale to private owners (Kaufeigenheime) depends upon whether the privately-owned house is constructed with the help of public means nearly 40 per cent of the privately-owned houses are constructed with public aid - and whether the buyer has received an employer's loan or a loan from the Equalisation of Burdens Fund for the remainder. Those who do not receive such financial support have in general to finance more than 20 per cent of the purchase price from their own means.

In general, however, buyers try to use as much private capital as possible in order to keep current expenses within reasonable limits. In this respect the above-mentioned state incentives for savings with Construction and Loan Banks are of high importance.

Privately-owned dwellings in multi-family houses are rare compared with the number of privately-owned one- or two-family houses. After the Law on Private





URBAN AREAS (1) in the German Federal Republic (excluding Berlin and Saar)

**URBAN AREAS:** 



Urban centres (city centre and immediate approaches)

Suburban areas (built-up areas, inner suburbs and outer suburbs)

(1) Source: "Urban areas in the Federal Republic": Report on the meetings and research of the Akademie für Raumforschung und Landesplanung (Academy for Regional Development) Vol. XIV, Bremen, 1960.

or Housing, Town Planning and Regional Development, August 1960.

Housing Property was passed in 1951, the system of buying single dwellings developed very slowly and was mostly practised in the big towns. Most flats in apartment blocks are for rent rather than for sale. Nevertheless, construction of privately-owned dwellings has recently increased owing to the fact that the construction of dwellings to be let entails a continuously growing risk for the owner arising from increased construction and land prices; this in turn has resulted in more and more investors constructing apartments for sale.

Nearly 800,000 dwellings belonging to co-operative corporations are a special form of the housing supply involving property rights.

### TOPICAL PROBLEMS: PRICES OF CONSTRUCTION LAND

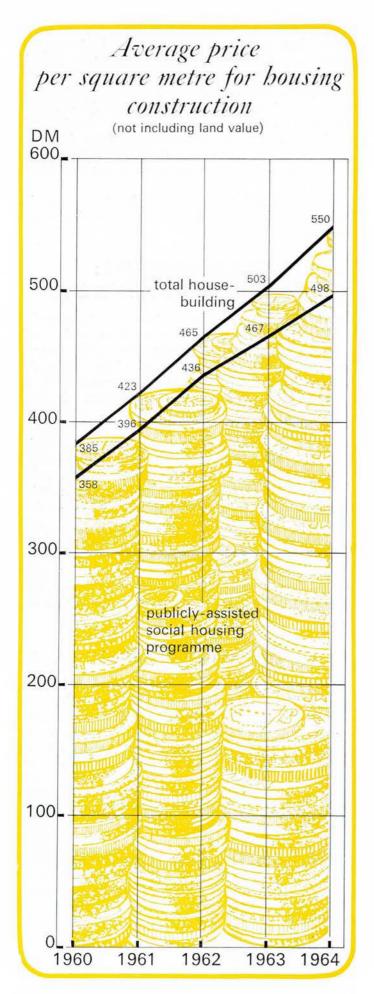
Land prices go up as a result of the disproportion between the supply of construction land, which only slowly becomes available, and the more rapidly increasing demand. In countries where private ownership, including private land property, is guaranteed by the constitution, problems of land procurement will never be solved completely.

All efforts made to suspend the principles of free development of land prices have failed. The price stop, valid in Germany since 1936, was circumvented in many ways. In passing the Federal Construction Law in 1960, the lesson was drawn from this situation and the price stop annulled. Since then the development of land prices clearly reflects the shortage. It is the development of construction land prices on the outskirts of particularly attractive cities that proves the necessity of a balanced deployment of the population. A planning law was passed this year after negotiations with the Länder and the communal organisations.

#### CONSTRUCTION COSTS

Besides the regionally variable but on the whole rather unfavourable development of land prices, the development of construction costs has caused great concern in recent; years. The price index figure for construction of dwelling houses went up in 1961 by 7.6 per cent, in 1962 by 8.7 per cent, in 1963 by 6 per cent and in 1964 by 5.3 per cent. Building costs estimated by the builder per square metre of living space, which are calculated when the building authorisation is granted, have increased even more:

Year	Building costs per square metre	Percentage change by comparison with previous year
1961	423 DM	9.6
1962	465 DM	10.0
1963	503 DM	8.2
1964	550 DM	9.3



These higher increase rates also reflect improvements in quality, however.

The building cost increase, which exceeds by far other price increases, can be traced back to the following reasons:

- Due to full employment in the Federal Republic, manpower became scarce. In order to meet the requirements of the labour market, more than 1 million foreign workers had to be employed. In the building industry alone they total about 200,000.
- Surface construction and in particular housing construction has, in spite of the high degree of mechanisation reached in the meantime, still a relatively high labour-content. Consequently an increase of wages and salaries in the building industry has a stronger effect on surface construction than, for example, on road construction requiring a considerable amount of capital assets, or in economic fields with heavy industry production.
- The building market showed an excess demand. Higher cost burdens were the consequence. Fluctuations of manpower increased. Jobs had partly to be filled with foreign labour, a solution which incurs considerable costs. If, in addition, deadline orders have to be fulfilled, costly overtime work cannot be avoided. And lastly, an increasing number of modern construction machines has to be bought under the pressure of the manpower shortage.

In 1962, at the peak of the trade-cycle tension in the construction market, the Federal Government took a series of measures to dampen the boom: for example, the provisions for depreciation in housing were suspended, as has already been mentioned.

Together with a temporary decrease in the distribution of the means for social housing construction, this measure led in 1963 to an apparent slackening in the building demand. The law on a construction stop also passed in 1962, however, had little effect due to the high number of exceptions made.

The year 1964 has clearly shown how — due to rationalisation — building output went up, without causing a new increase in the labour employed. With a simultaneous lower increase of building costs a result was achieved which had never been reached before certainly partly due to the especially favourable weather conditions but also to the progress made in the field of productivity. But the larger proportion of the increase in productivity in the Federal Republic can be traced back to mechanisation. The use of prefabricated parts is also rapidly expanding. Types of industrial prefabrication where most of the work is done in the factories and, apart from the finishing touches, only assembly works are carried out on the building site, have been introduced in house building only in a few major cities, while in the field of industrial construction they have been playing a rather important part for some time. The main reason for this can be seen in the fact that industrial types of prefabrication are only paying if a long-term guarantee is given for the sale of a certain production. In Frankfort, for example, a well-known building corporation has fac-



More than 8.3 million dwellings have been constructed in the Federal Republic, including West Berlin, since 1949.

ilitated the introduction of industrial prefabrication through a corresponding sales guarantee. The situation is similar in Berlin, Hamburg and Munich. All these developments, however, are based on the initiative of trade and industry. The sole objective of the building policy is to promote competition among

### Proportion of owner occupiers in residential building

		Completed residential buildings										
Year	V	Vith 1 or 2 o	dwelling unit	With 3	or more dwe	elling units						
	Number of	f buildings	(5)	per of g units	Number of buildings	0.303030	ber of ng units					
	Figures in thousands	As a * percentage	Figures in thousands	As a * percentage	Figures in thousands	Figures in thousands	As a * percentage					
1960	169.1	32.3	235.5	45.0	37.9	287.4	55.0					
1961	179.3	34.8	247.6	48.1	35.0	267.3	51.9					
1962	179.8	34.6	245.4	47.2	35.4	274.4	52.8					
1963	182.6	35.5	246.4	47.9	35.1	267.9	52.1					

<sup>\*)</sup> The percentage show the proportions of completed dwelling units owned by their occupiers in wholly residential buildings. Dwelling units built into partially residential and non-residential buildings, which account for about 10 per cent of all residential building, are not included in the Table.

the different kinds of construction performances. From the very beginning, the State took great interest in the furtherance of research in construction techniques and standardisation, which led to considerable cost savings for the overall building industry and in the end benefited the consumer. Economies made in building expenditure through research and the application of its results may be estimated at several thousand million German marks.

Furthermore, the Federal Republic promotes demonstrations of *construction measures*. These are not only to demonstrate perfectly planned solutions with regard to town construction and lay-out but in particular rational ways of construction and the testing of new kinds of construction.

In this field it is difficult to estimate the real value of promotion measures. There can be no doubt, however, that these measures contribute considerably to the dissemination of knowledge of new construction methods and thus to production progress.

### SUBSIDIES FOR SOCIAL HOUSING

Social housing is destined to provide dwellings for the lower income brackets of the population. In order to keep the rents of social dwellings for these population layers within acceptable limits, the State pays considerable subsidies, mostly in the form of loans free of interest. This form of promotion aims at keeping rents and other financial burdens for these dwellings at a constant low level. However, experience has shown that in the course of years the incomes of most of the dwellers in such lodgings increased considerably and that, as a consequence, rent allowances were no longer justified. It would, therefore, be desirable that tenants concerned move to more expensive dwellings leaving their low-rent dwellings to poorer people for whose accommodation the State would otherwise have to make much higher public expenditure due to increased building and land costs.

Objections have, however, been raised against public intervention with the existing rent and loan contracts. Provision is, therefore, made in a bill submitted to the Bundestag to the effect that, for the accommodation of poorer people seeking a home, only social dwellings that become vacant are to be used.

In order to solve the problem of the so-called "misallocation" of social dwellings from the very outset, the basing of future social housing projects on individual rent subsidies is being considered, since these can more easily be adopted to changing income levels.

### CURRENT PROBLEMS AND POLICIES

An understanding of the economic problems of one country may provide valuable insights into those of another, despite differences in the surrounding circumstances or even in the nature of the problem itself. OECD's Economic and Development Review Committee bears this fact in mind when making its annual surveys of each Member country's economy. The following is based upon the Survey of Japan for 1965.

### THE ANALYSIS

The Japanese authorities have been very successful during the post-war years in moderating inflationary pressures without interrupting for long the economy's steady and spectacular growth. Now, however, there are indications that the economy has entered a new phase: business conditions are not showing their customary resilience, and the Japanese authorities are finding it necessary to seek new ways to stimulate activity.

### THE PROBLEM

During the period of rapid growth in the 1950's and early 1960's, whenever the Japanese economy showed signs of overheating — as indicated chiefly by a deficit in foreign trade — the authorities applied vigorous monetary restraint to correct the situation.

In addition to the tools commonly used in other countries, the Japanese government employed a monetary measure known as "window guidance". This enables the Bank of Japan to exercise surveillance over individual banks and to indicate to each one what it considers to be an appropriate loan level. Thus strict control can be exerted over the volume of credit. Since Japanese firms depend to a much

greater extent than those of other countries on bank loans for their investment funds, tightening credit was very effective in moderating investment. It also resulted in a rapid decrease of imports.

When the balance of payments had been restored, the restrictions were able to be removed. Then investment — particularly in new machinery — would resume its upward course, and the expansion speed up again.

But the most recent business cycle contrasts with previous experience: although the relaxation of monetary restrictions began as long ago as December 1964, the economy has so far failed to respond, despite the fact that the central bank discount rate has been reduced to 5.48 per cent, its lowest level since the war. Investment has not expanded, and consumption has remained stagnant. The number of job seekers is greater than the job vacancies, and business surveys show no signs of an upturn in the offing.

OECD's survey of Japan asks whether the recession is the result of a chance combination of circumstances or of more deep-seated factors.

### COMMENTS OF THE COMMITTEE

The answer suggested by the Survey is that the Japanese economy has probably entered a transition period. During the whole post-war era investment had been growing continually in relation to

### CURRENT PROBLEMS AND POLICIES

gross national product, but this process could not continue indefinitely. It resulted in growing margins of excess capacity, which became progressively evident during the last recession, and this is why the reversal of the credit restrictions has not, this time, induced a revival of investment leading to a general business recovery. The authorities will therefore have to ensure that types of demand other than investment expand fast enough to prevent a prolonged recession. In the longer-run, it is likely that investment will tend to become a more or less stable proportion of national product; other types of demand may become progressively more important as dynamic growth factors.

This analysis implies a need to diversify policy tools and to lessen the traditional reliance on monetary policy alone. "For purposes of controlling fixed investment, monetary policy entails an asymmetry which many other countries have experienced. When demand for funds is high, restriction of their supply almost automatically tends to reduce investment, but an abundant supply of funds when demand for them is low has no effect upon investment."

The budget has not, traditionally, been used by the Japanese as an anti-cyclical tool. The principle of the "balanced budget" has been adhered to, and expenditures have been tailored to the level of expected tax returns. Last summer, however, faced with prolonged recession and lack of response of the economy to credit relaxations, the government took steps to increase budgetary expenditures in line with the needs of overall demand conditions. Moreover, government financial institutions stepped up their lending programmes and lowered their interest rates, and the possibility of issuing long-term government bonds was discussed.

"Under present circumstances", concluded OECD's Economic and Development Review Committee, "there would seem no alternative to further action in the budgetary field. The steps taken by the Japanese authorities in June and July of 1965 to accelerate or expand public expenditure mark an important new departure. It is to be hoped that this orientation will be confirmed in the 1966 budget now under preparation. A substantial expansion of public expenditure would seem the most appropriate way of overcoming the recession. And given the present stagnation of incomes and, consequently, of tax receipts, this will have to be financed by public borrowing."

It has recently been announced by the Japanese authorities that expenditures in the 1966 budget will in fact substantially exceed revenues and that the deficit will be covered by public borrowing.

### INVESTMENT TRI

and steel industry was at very high levels in 1961, 1962 and 1963, but has since tended to slacken somewhat, at all events so far as the European countries and Japan are concerned. There has been a falling-off in the number of investment projects notified to the Special Committee for Iron and Steel and in the amounts of investment expenditure involved. This position has to some extent been affected by a fall in companies' receipts during a period of comparative stagnation, which has influenced them to assess the possible future expansion of their markets rather less favourably, and at times to defer some investment projects.

On the other hand, the fact that investment expenditure has remained as high as it has may be attributed to the companies' desire to keep their investments at a level which would enable them to maintain

or improve their competitive position.

Under these conditions, investment has been largely directed to the modernisation and rationalisation of plant in order to improve the quality of the products. There are three main trends in the modernisation process: the construction of oxygen-blown converters, often to replace old basic Bessemer converters; the increasing importance of continuous casting processes which enable the yield of steel to be increased at relatively low investment cost; and the replacement of old units by new units which enable companies to improve their competitive position and increase their range of products.

In many European Member countries rationalisation is taking two main forms: either a concentration of the production of certain products in particular plants, thereby maximising output and avoiding operating losses; or joint investment by companies in new plants, thus avoiding an individual company being burdened too heavily by the cost of the investment.

Against this background of a more selective approach to investment projects, the Special Committee's report on the situation in 1964 and trends in 1965 (1) shows that there was quite a marked fall in investment expenditure in 1964 in all the European Member countries combined, whereas there was a considerable increase in Canada and the United States; in Japan, the remaining OECD Member country, expenditure was slightly down on the previous year (table 1).

 <sup>&</sup>quot;The Iron and Steel Industry in 1964 and Trends in 1965", published by OECD.

### IDS IN THE IRON AND STEEL INDUSTRY

Surplus capacity exists in the steel industries of some OECD steel-producing Member countries; it is therefore important to the economies of these countries that investment resources should not be misdirected. The role of the OECD Special Committee for Iron and Steel in this respect is to ensure that adequate information on individual projects as well as on general investment trends in the industry is made available to enable those responsible to frame their planning for future requirements.



Increased investment in Canada and the United States which, it seems clear, will prove to have been higher again in 1965, was in part due to the favourable economic climate coupled with the need to meet active competition on their home markets from foreign steel industries. In Europe and Japan, on the contrary, the economic climate has not been so favourable during recent years. Despite this, investment was

### TOTAL ANNUAL INVESTMENT EXPENDITURE (1) (US \$ million)

	European Member countries	Canada	United States	Japan
1960	1,462	-	1,521	_
1961	1,904	67	960	-
1962	1,918	101	911	12
1963	1,913	104	1,040	503
1964	1,686	174	1,600	486

(1) The validity of the comparisons of investment expenditure from year to year which are made in this chapter is obviously affected by factors of secondary importance, such as variations in the dates payments become due, delays in deliveries or in the carrying out of work, etc. To be valid, comparisons must therefore be made over fairly long periods.

Similarly, differences in the structure of the

Similarly, differences in the structure of the iron and steel industry in the various countries make great caution necessary when drawing conclusions from comparisons.

high in 1961-1963; and it was in 1964-1965 that many big projects, or at least their first stages, reached completion. It was therefore to be expected that investment expenditure should fall back at the present time.

The contents of the investment projects which have recently been submitted to the Special Committee for Iron and Steel and which are to be carried through within the next few years confirm these trends

### INVESTMENT TRENDS IN THE IRON AND STEEL INDUSTRY.

(table 2): most relate to the enlargement, rationalisation and/or modernisation of existing plants in order to improve productivity rather than to increase capacity.

A further rationalisation development, appearing in the European countries, is the tendency of companies to concentrate in larger units, or to enter into special arrangements with each other, in view

### INVESTMENT PROJECTS NOTIFIED TO THE SPECIAL COMMITTEE FOR IRON AND STEEL AND EXPENDITURE INVOLVED (1)

Year	Number of projects	Expenditure (\$ million)	Average outlay on each project (\$ million) (2
1960	133	1,874	14.1
1961	97	1,582	16.3
1962	55	829	15.1
1963	35	360	10.3
1964	39	533	13.7

- (1) All the main products of the industry are covered by the projects notified to the Committee (excluding raw materials and certain finished products); the projects are submitted when the estimated expenditure exceeds \$500,000 in the case of new steel production or processing units, or \$1,000,000 in the case of the conversion of existing plant.
- (2) The calculated average outlay may be affected by a few large-scale projects falling within a given period.

of the increasing size of the market coupled with keener competition, more rapid technological progress, and the need to spread the heavy financial burden of new investment. Mergers and agreements of this kind may take place at either the raw materials stage, the production stage or the distribution stage. The industry generally is alive to this trend, which raises various problems both from the technical standpoint and from that of national and international laws.

### EXCHANGE OF INFORMATION ON PROJECTS

The collection, correlation and distribution of detailed information on individual investment projects is carried out by the OECD Special Committee on Iron and Steel, in accordance with rules of procedure, the latest revision of which was adopted in 1963.

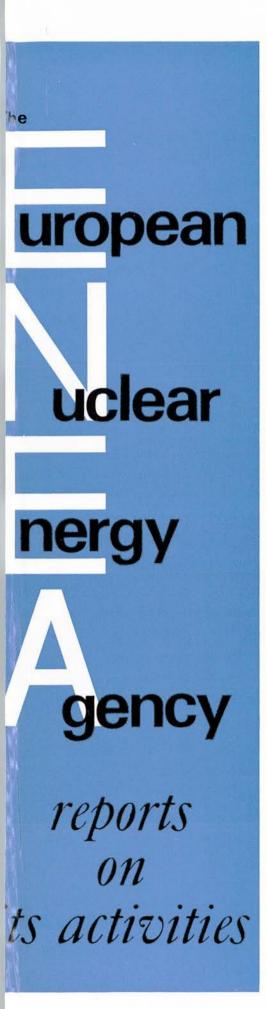
The nature and scope of projects to be submitted to the Committee are defined as all those involving the construction or reconstruction of iron and steel works, or constituting a complete technical unit, costing more than a stated minimum capital outlay. In some cases projects costing less than this amount may be submitted when reconstruction involves an interesting aspect of modernisation or their description helps to give a better picture of the general investment programme of a given steelworks.

As soon as definitive plans for projects are available, Member countries' delegations to OECD provide the OECD Secretaria! with detailed information covering -

- a general description of the project (type and location, technical details and dimensions of the plant);
- estimated dates of completion;
- · effects on the labour force;
- supply situation as regards raw materials, including fuel and power;
- new production capacity;
- effect on existing capacity;
- destination of products;
- total estimated cost;
- advantages of the project.

At each of its sessions, the Committee discusses projects which have been received at least seven weeks before the meeting. In order to speed up discussion at the meeting itself, delegations may submit written questions to the country concerned; written replies are provided by the latter and circulated to all delegations beforehand.

Finally, after each session at which investment projects have been discussed, a statement is sent to the OECD Industry Committee (which holds a watching brief over all sectors of industry) reviewing the projects by production sector and summarising the projects of each country and the new installations planned, with information on the resulting net increases in capacity.



Since 1957 the European Members of OECD have been working together in the European Nuclear Energy Agency (ENEA), whose purpose is to supplement their national efforts towards peaceful atomic development — and thus to raise their energy resources to the level required by OECD economic growth targets — by the promotion of joint nuclear undertakings, the harmonisation of action in certain fields, and the creation of an appropriate legal and administrative atomic regime in Europe.

Last month the Agency's Seventh Activity Report, covering the period from September 1964 to September 1965, was published by OECD.

erhaps the most prominent international activities associated with ENEA over the past years have been the Eurochemic, Halden and Dragon joint undertakings. These

three projects, with a total investment of \$120 million and employing an international staff of more then 500 scientists and technicians, have continued to make substantial progress.

#### **EUROCHEMIC**

In early 1965 the first contracts for reprocessing irradiated nuclear fuel at the Mol (Belgium) plant of the Eurochemic Company (European Company for the Chemical Processing of Irradiated Fuels) were signed, and several tons of fuel from a number of European reactors have since arrived at Mol for storage until reprocessing begins.

Start-up of the plant is in fact expected early next year, construction work being already complete and testing of the equipment well advanced. Much of the Company's effort is thus now concentrated on preparations for the start-up, including the training of operating staff and research work aimed at assuring the best operating conditions and the maximum efficiency of the plant. In preparing its operating programme, Eurochemic is endeavouring to coordinate its future activities with those of specialised nuclear carriers and fuel fabricators, who are closely involved in the overall nuclear fuel cycle.

#### HALDEN

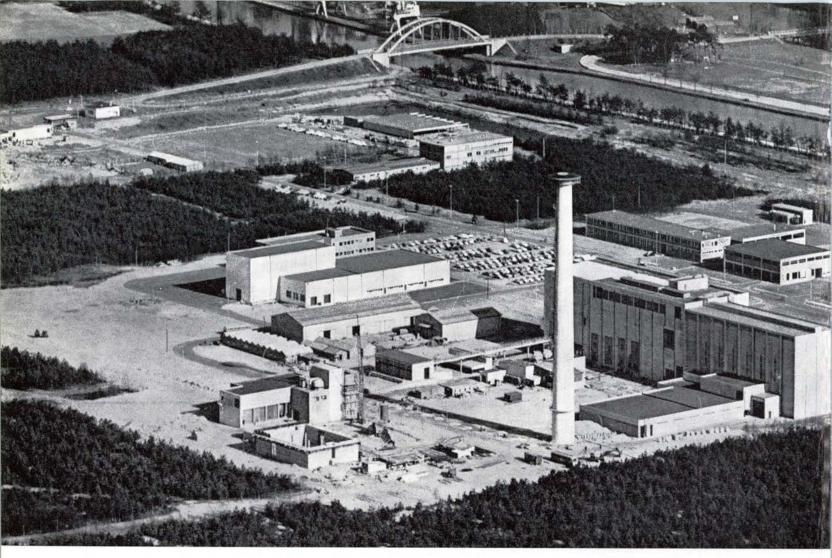
The Halden boiling heavy water reactor in Norway, originally used for the experimental investigation and development of this reactor type, is now being operated as an irradiation testing facility for prototype power reactor fuel elements supplied by some of the 11 countries co-operating in the joint programme. This programme also includes the development of in-core instrumentation techniques and investigation into certain chemical effects in boiling reactors. At the termination of the present 3-year programme on 31st December

1966, the Halden Project will have completed 8 1/2 years as an international joint undertaking with an overall expenditure of \$11.8 million. The participants in the current programme are now considering a proposal for a further 3-year joint programme at Halden.

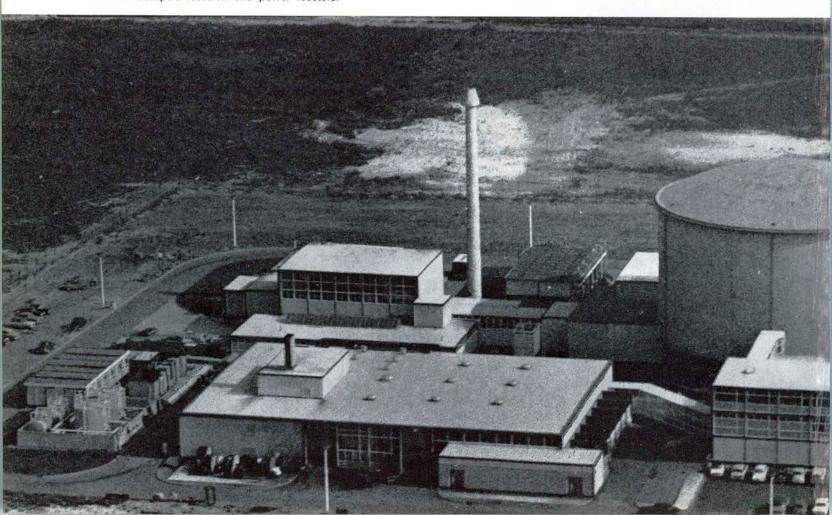
Incidentally the Halden reactor, which is now in almost continuous operation at a thermal power of some 17 megawatts, has supplied over 100,000 tons of secondary steam to a nearby pulp and paper factory.

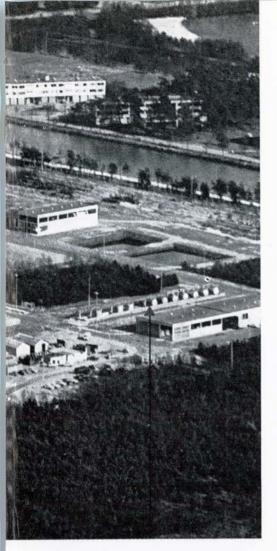
#### DRAGON

The Dragon high-temperature gascooled reactor experiment at Winfrith in the United Kingdom, which is the third of ENEA's joint undertakings,

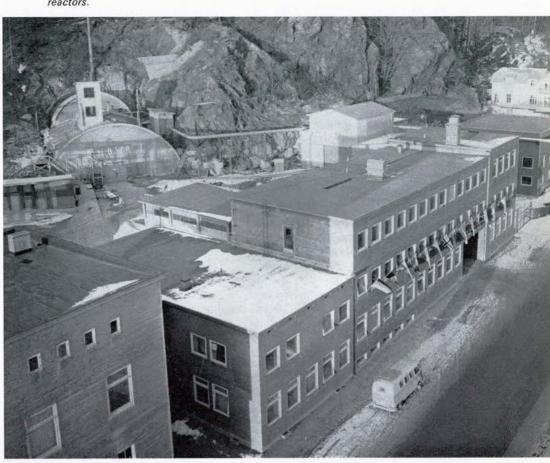


Above: Eurochemic, a \$ 38 million international shareholding company, was the first of ENEA's joint undertakings to be set up. The Company's irradiated fuel reprocessing plant at Mol (Belgium) is perhaps the most versatile in the world, being able to accept virtually every type of fuel used in Europe's research and power reactors.





Below: The Halden reactor in Norway has been in operation since 1959. It has provided a mass of scientific and technical information covering all aspects of the design and operation of boiling reactors.



3elow: The Dragon reactor experiment, at Winfrith in the United Kingdom, is designed to provide experimental data leading to the development of a high-temperature carbon-moderated gascooled power reactor. Like Halden, Dragon is at present the only operating reactor of its type in the world.



has completed its commissioning tesst and has already been operated up to a quarter of its full design power rating of 20 megawatts of heat. The reactor is now fully employed in a joint experimental programme to confirm the suitability of the many special features which it incorporates. Experience so far indicates that the design concept of this novel type of reactor will be technically possible for large-scale power production, and may offer significant advant-

ages over existing reactor types.

Intensive studies are proceeding on the engineering design of an economic Dragon-type reactor power station of 500-600 electrical megawatt output. Discussions have been initiated with a view of extending the term of the \$70 million joint experimental programme beyond the present period of eight years, which under the terms of the current international Agreement would come to an end in March 1967.

### SPECIAL COMMITTEES AND COMMON SERVICES

ENEA has continued its activities in other fields of nuclear science and engineering, in particular through the work of its specialised committees and information centres. During the past year the European American Nuclear Data Committee (EANDC) has continued its work aimed at coordinating and developing the measurement of nuclear properties of materials used in nuclear energy programmes. The European Ameri-

can Committee on Reactor Physics (EACRP), which was set up to promote co-operation between the OECD countries in work on neutron aspects of reactor physics, has given special attention during the past year to physics measurements in operating power reactors, to power reactor dynamics, and to fuel burnups, matters of increasing importance as nuclear power programmes develop.

A Committee on Reactor Safe-

ty Technology (CREST) was set up in the summer of 1965 to examine work being done in connection with reactor safety techniques, collate and disseminate the results of this work, and advise on the co-ordination of further action in this field within the framework of the various countries' own research programmes.

The ENEA Computer Programme Library, which is located at the Euratom Joint Research Establishment at Ispra (Italy), and the ENEA Neutron Data Compilation Centre established at the Saclay (France) Centre d'Etudes Nucléaires are now fully operational. The Ispra Library has assembled a collection of nearly 300 different nuclear energy programmes, and some 400 tested programme "packages" have been supplied, while at the Saclay Compilation Centre the "CINDA" com-

puter-stored neutron data reference index has been operating since January 1965 on equal terms with the index at the United States Cinda Centre.

During the past year Belgium joined the eleven other countries (Austria, Denmark, France, the Federal Republic of Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland and the United Kingdom) participating in the activities of these two ENEA Information Centres. In the spring of 1965 a Co-operative Arrangement was concluded by ENEA with the United States Atomic Energy Commission, aimed at establishing close working links between the two ENEA Information Centres and the equivalent United States Centres. The Arrangement provides, in particular, for complete exchange of information between North America and

western Europe through the respective centres.

### FOOD IRRADIATION

An Agreement for Collaboration between OECD, the Österreichische Studiengesellschaft für Atomenergie, and the International Atomic Energy Agency (IAEA) on a six-year international research programme on irradiation preservation of fruit and fruit juices at the Seibersdorf Nuclear Research Centre, near Vienna, was signed in September 1964. During 1965 international staff seconded by interested countries participating in the programme began working at Seibersdorf, and the Project now has a team of some 30 scientists and technicians. The IAEA has provided

Separation of yeast-cells by ultracentrifuge at Seibersdorf Food Irradiation Project.



Testing nuclear computing programmes at the ENEA Programme Library at Ispra.



Chief Programmer and Physicist-in-Charge discuss computerised data files at ENEA Compilation Centre, Saclay.



fellowships for qualified scientists from within its Member States to work at the Project. Three special programmes of research work to be undertaken in outside laboratories under the supervision of the Project — in Italy, Spain and Switzerland — have also been agreed.

#### ATOMIC REGIME

In the field of atomic regulation and control ENEA, in close liaison with the International Atomic Energy Agency, is engaged on a revision of the basic norms for protection against ionising radiations which were adopted by the Agency's Member countries in 1959 and first revised in 1962. This second revision results from new scientific recommendations by the International Commission on Radiological Protection. Recommendations for the adoption of safety norms applicable to the special case of radioluminous timepieces, elaborated by ENEA in collaboration with the IAEA, have been expanded to include provisions dealing with control procedures designed to ensure proper application of the recommendations.

The ENEA Security Control System. set up by the December 1957 Convention on the Establishment of a Security Control in the Field of Nuclear Energy, has continued to be applied to the Agency's joint undertakings. The control is designed to ensure that none of the Agency's work, nor that of its joint undertakings, can serve any military purpose. The control applies particularly to fissile materials used or treated in any of the joint undertakings, and depends on an accounting system for these materials. The application of the control has included a series of on-the-spot inspections of installations subject to control as well as the verification of their use of controlled materials.

A number of important steps have been taken towards the establishment throughout Western Europe of the special regime created by the OECD (Paris) Convention on Third Party Liability in the Field of Nuclear Energy, which was signed in 1960 by 16 ENEA countries. In November 1964 one of the last problems remaining on an international level was settled when the ENEA Steering Committee decided upon the exclusion of certain small quantities of nuclear substances from the application of the Convention, following a similar decision taken in September 1964 by the IAEA Board of Governors in respect of the 1963 Vienna Convention on Civil Liability for Nuclear Damage. Certain other problems, which many Signatories felt had to be resolved before they could elaborate appropriate national legislation or ratify the Paris Convention, had been settled successively in 1963 through the signing of the Convention Supplementary to the Paris Convention, the Vienna Convention and, in 1964, by the signature of Additional Protocols to the Paris and Supplementary Conventions.The centre of action in the field of third party liability has, for the moment, shifted back to the national scene as countries take the necessary internal measures in view of ratification of the Conventions.

#### NEW ACTIVITIES

With a total of 48 nuclear power stations now either in operation, under construction or decided upon, it can be confidently predicted that nuclear installed capacity in Western Europe will expand from its present level of just over 4,000 electrical megawatts to nearly 12,000 megawatts by 1970. Furthermore, this trend is likely to continue at an increasingly rapid rate, and it is for this reason that ENEA, at the beginning of 1965, launched a co-operative study of the available supplies of nuclear raw materials, the anticipated long-term demand for nuclear power and the future orientation of reactor development in Western Europe (1).

In a different field, in 1964 the ENEA Steering Committee set up a group of experts to examine the measures to be taken to ensure the possibility in Europe of manufacture and subsequent utilisation of auxiliary radio-isotopic power sources. A particular task of the group was to investigate possibilities for the production of the necessary radio-isotopes. As a first step, experts on radioisotopic energy production from the ENEA Member countries and also from Euratom, ELDO, ESRO and the European Conference on Satellite Communications have made a survey of existing isotopic generators in the world, on European needs for such generators and of the possibilities of their production in Europe. This work is continuing.

(1) A first report, World Uranium and Thorium Resources, was published in August 1965.

### WORKING METHODS IN HOT LABORATORIES

Last June a five-day international Symposium on working methods in high-activity hot laboratories (laboratories for handling highly radioactive materials) was organised at the French Centre d'Etudes Nucléaires in Grenoble by the European Nuclear Energy Agency (ENEA) in collaboration with Euratom. The Symposium was the first international meeting to be held on the subject, and was attended by some 130 experts from hot laboratories in nuclear research centres of 15 European and American countries of OECD and from Euratom.

Although the Symposium was concerned with hot laboratories for research in general, most of the papers presented dealt with installations for work on irradiated fuels. Main topics covered included non-destructive testing (e.g. by radiography and gamma spectrography); methods for dismantling and machining irradiated fuel elements, transfer methods, and decontamination problems. There were also several general papers reporting practical operating experience.

The Proceedings of the Symposium, now published by OECD in two volumes, contain all the 50 papers presented during the eight technical sessions as well as the ensuing discussions. In addition, a comprehensive and detailed directory of high activity hot laboratories in operation in OECD countries, compiled by ENEA on the occasion of the Symposium, is included.

1,036 pages (2 volumes, bilingual) : US § 24; £ 6.12s.6d; F 96; Sw fr. 96; DM 80.

#### ATOMIC HANDBOOK: Volume One - Europe

This new reference work owes its existence to the Nuclear Public Relations Contact Group (NPRCG) whose members include public relations officers of individual countries and nuclear organisations throughout the world. Among the organisations represented is the European Nuclear Energy Agency (ENEA) set up by OECD.

The first volume, which deals with Europe, is designed to enable officials, scientists and those engaged in the nuclear industry to find the information they require in their daily work; at the same time it provides a practical guide to who is doing what in atomic energy. It is hoped to publish a second volume for the Americas and Canada in 1966. Further editions of both volumes will be published later to keep them up to date, and plans are being made to include eventually the rest of the world.

Contents of Volume One include a general section on Nuclear Energy in Europe (international organisation membership, agreements for nuclear co-operation, finance, manpower, research and development centres, power capacities, reactor tables, etc.); a Directory of International Organisations; a Directory of Nuclear Energy Facilities and Personnel; a list of Journals and Journalists concerned with Nuclear Energy; a Directory of Nuclear Public Relations Specialists; and a bibliography of Nuclear Year Books and Reference Books.

Atomic Handbook is published in the English language on

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60 pages: US \$ 1; 6 s.; F 4; SF 4; DM 3.30.

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